

HENRY B. H. BEAUFOY, F.R.S.



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MATERIA INDICA;

OR,

SOME ACCOUNT

OF

THOSE ARTICLES WHICH ARE EMPLOYED BY

THE HINDOOS,

AND OTHER EASTERN NATIONS,

IN THEIR

MEDICINE, ARTS, AND AGRICULTURE;

COMPRISING ALSO

FORMULÆ,

WITH PRACTICAL OBSERVATIONS,

NAMES OF DISEASES IN VARIOUS EASTERN LANGUAGES,
AND A COPIOUS LIST OF ORIENTAL BOOKS IMMEDIATELY
CONNECTED WITH GENERAL SCIENCE,
&c. &c.

By WHITELAW AINSLIE, M.D. M.R.A.S.

LATE OF THE MEDICAL STAFF OF SOUTHERN INDIA.

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"To a minute investigation of the peculiar virtues of certain plants and herbs, the Indians of old were naturally incited by the vast variety and beauty of the innumerable vegetable productions which cover the face of their fertile territory: these in some places grow up spontaneously; many applied to sacred purposes, the ministers of religion reverently cherished; and many the hand of traffic diligently cultivated for exportation."

INDIAN ANTIQUITIES, vol. vii. p. 624.

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PRELIMINARY OBSERVATIONS.

It is much to be lamented that it was ever found necessary to include the sciences, and arts, amongst those subjects which are treated of in the sacred writings of the Hindoos; a circumstance which has been hitherto an insurmountable obstacle to improvement; and is, no doubt, one of the causes why medicine in India is still sunk in a state of empirical darkness.

"The *Ayur Veda*, as the medical writings of the highest antiquity are called, is considered to be a portion of the fourth or *Atharva Veda*, and is consequently the work of Brahma*, who composed the four immortal *Vedas*; this *Ayur Veda* was communicated by Brahma to *Dacsha* the *prajapati*, and by him the two *Aswins*, or sons of *Surya* (the sun) were instructed in it; and they then became the medical attendants of the Gods: a genealogy which cannot fail recalling to our remembrance the two sons of Esculapius, and their descent from Apollo." The Aswins, it is believed by some, first made *Indra* acquainted with the medical science contained in the

* See an interesting account of the medical and surgical sciences of the Hindoos, in the *Oriental Magazine* for March 1823.

Ayur Veda, and that he was the precepter of *Dhanwantrie*; others are of opinion that *Atreya*, *Bharadwaja*, and *Charaka* were instructed in the mysteries of the healing art prior to *Dhanwantrie*; be that as it may, *Charaka*'s work is still extant, and goes by his name. *Dhanwantrie* is sometimes called *Kasiraja* (Prince of Kasi or Benares); his disciple was *Susruta*, son of *Viswamitra*, a contemporary of *Rama*; his work (Susruta's) still exists; it is supposed to be of great antiquity, perhaps the oldest, with the exception of that of *Charaka* *, which the Hindoos yet possess.

The *Ayur Veda* itself is said to have originally consisted of one hundred sections of a thousand stanzas each; it was adapted to the limited faculties of man, and was divided into eight parts, comprising the whole of the *ars medendi* amongst the Hindoos; according to the valuable account above mentioned, they were the following:—

I. *Salya*, which instructed in the art of extracting extraneous substances that chance or mischief may have forced into the human frame.

II. *Salakya*. This treated of external organic affections, such as diseases of the eyes, ears, &c.

III. *Kaya Chikitsa*. This treated of the application of the healing art to the body in general.

IV. *Bhutavidya*. This treated of the restoration of the faculties from a deranged state, induced by demoniacal possession.

V. *Kaumarabhritya*. The subject of this was the care of infancy; it also embraced the treatment of puerperal disorders in mothers and nurses.

* This some imagine to have been inspired by *Seeva*; other Sanscrit medical works of great celebrity, but of more modern date are the *Roganirupana* and *Nidana*. (*As. Res.* vol. i. p. 350.)

VI. *Agada.* This taught the best mode of administering antidotes.

VII. *Rasayana.* This treated of chemistry, or more properly speaking, alchemy.

VIII. *Rajikarana.* This taught how the increase of the human race could best be promoted.

Sir William Jones informs us, that the *Ayur Veda* has been almost entirely lost in the lapse of ages *; but that he had met with a curious fragment of it; in which he was surprized to find an account of the internal structure of the human frame. Whatever may have been done, however, in this way, in former times, it is to be regretted that the custom of dissecting and examining the dead subject, does not now exist amongst the Hindoos; indeed it is, I believe, contrary to the Brahminical tenets of the present day: so that all the knowledge they have of the anatomy of man, can be little else than conjecture, formed from what they may have seen in looking into the bodies of brute animals.†

With regard to the surgical knowledge the ancient Hindoos possessed, however neglected that branch of medicine may now be in India, it will I think be allowed, from what has been advanced respecting

* In the hermetic writings, or bible of Egypt, the *Zend-Avesta* of Iran, the *Vedas* and *Upavedas* of Hindoostan, Mr. Miller informs us, are discovered, respectively, complete sections on the subject of medicine; and which must be considered as incomparably the most ancient monuments of that science. See Miller's *Disquisition on the History of Medicine*, part i. p. 249.

† The present Rajah of Tanjore is a most enlightened and learned prince, and particularly distinguished by his attachment to scientific research; anxious to make himself acquainted with the structure of the human body, but too rigid a Hindoo to satisfy his curiosity at the expence of his religious opinions, he ordered a complete skeleton made of ivory to be sent to him from England. The Rajah is, besides, a tolerable chemist; and, what is better, a very worthy and amiable man.

the two first subdivisions of the *Ayur Veda*, viz. *Salya* and *Salakya*, that those must have treated of surgery, strictly so called; and it has as clearly been ascertained, that in the first portion of a commentary * on Susruta's work, already noticed, many valuable surgical definitions are distinctly detailed: this portion is entitled *Sutra St'hana* or chirurgical definitions. The second portion of the commentary is the *Nidana St'hana*, or section on symptoms or diagnosis. The third is the *Sarira St'hana*, the subject of which is anatomy. The fourth, *Chikitsa St'hana*, treats of the internal use of medicines. The fifth, *Kalpa St'hana*, gives a copious list of antidotes. The sixth and last is the *Uttara*; it is a supplementary section on various local diseases or affections of the eye, ear, &c. In all those portions, however, it would appear from the testimony last quoted, that surgery, and not general medicine, is the principal object of the commentary.

The instrumental part of surgery, was, according to the best authority, of eight kinds, *chedhana*, cutting, or excision; *lekhana*, which signifies drawing lines, appears to be applicable to scarification and inoculation; *vyadhana*, puncturing; *eshyam*, probing, or sounding; *aharya*, extraction of solid bodies; *visravana*, extraction † of fluids; *sevana*, or sewing, and *bhedana*, division, or excision.

* This commentary was made by *Ubhatta*, a Cashmirian, and may be as old as the twelfth century. See *Asiatic Journal* for September 1823, p. 242.

† Under this head, extracting of fluids, are included the use of leeches (*jalauka*) and bleeding or venesection. On the subject of leeches some of the surgical sastrums of Upper India treat fully. Twelve species of leech are therein enumerated, six of which are said to be poisonous; and their names in Sanscrit are the *karbura*, *alagarda*, *indrayudha*, *samudrika*, and the *gobondana*. The six that are fit for use are the *kapila*, or tawny leech; the

The mechanical means employed in Hindoo surgery seem to have been numerous; these were generally termed *yantras*, including a great variety of instruments (sastras), and having distinct names, corresponding with the purposes for which they were intended; such as tongs (*sandansas*), needles (*suchi*), teeth instruments (*danta sanku*), saws (*karapatra*), tabular instruments (*nari*), lancets (*mandalagra*), knives (*ardhadaras*), bistories (*kucharica*); of bandages according to *Ubhatta*, or *Baghbatta*, there were no less than fourteen kinds; of rods and sounds, and instruments for eradicating nasal polypi (nakra) so common and troublesome in India, there were also a great variety; then again in their surgical pharmacy they appear to have had, frequently, recourse to *kshara*, which signifies alkaline salts, or solutions, as are directed in the *saranghadra*. The actual cautery, with heated metals (agni) is very commonly employed by the Hindoos of the present age, who also not unfrequently use a cautery prepared with hot seeds, combustible substances, or inflamed boiling fluids of a gelatinous or mucous consistence; but as has been said in speaking of *anatomy*, whatever may have been done in former times, it may be justly observed, that no operations in *surgery* of any nicety, are now ventured on by the medical men of India; certainly, not by the Tamool or Tellingoo practitioners of the Southern provinces, where, however, dislocated joints are replaced, and fractured limbs set

pingala, which has a red tinge; the *sanka mukki*, which is yellow, and has a long sharp head; the *muskika*, which is dun; the *pandarika mukki*, which has the hue of the *mudga* (phaseolus moong); and the *savarika*, which resembles the leaf of the lotus in its colour. See *Oriental Magazine* for March 1823.

with tolerable skill, by a class of men called in Tamool *kayungkatugara atuvanien*, who also apply leeches, &c. The Mahometan doctors, *Hakeems* حكيم, occasionally bleed, and couch * for the cataract, which last is done in a very clumsy and uncertain manner. We learn from Mr. Crawford's excellent *History of the Eastern Archipelago* (vol. i. p. 329.), that neither are the Malay doctors much in the habit of taking away blood; like the Hindoos they have much faith in incantations, but never feel the pulse; in this last respect differing essentially from the Indians, who distinguish no fewer than "twenty kinds of pulse." †

The *Vitians* or *Vydias* (physicians) being sudras, are not permitted to peruse the sacred ‡ medical writings (vedas), which are guarded with religious awe by the Shastree Brahmins; but they have free access to many professional tracts (sastras), which correspond with, and are, in fact, commentaries on them. These are said to have been composed by prophets and holy men of antiquity (*Maharshies*), to whom is generally given a divine origin, such as Aghastier, whose work has just been quoted.

This is no place to enter minutely into the discussion, which has so long engaged the attention of mankind, regarding the claims of priority of Hindoostan over other countries, with respect to the cultivation of the human mind; nor have I sufficient of Eastern lore to enter with confidence on the sub-

* See *Asiatic Researches*, vol. i. p. 408. (Calcutta edition.)

† See a medical sastrum by Aghastier, entitled *Aghastier Vytia Anyouroo.*

‡ Sir William Jones informs us, that there is a vast collection of them from the *Charaka*, which is considered as a work of *Seeva*, to the *Roganirupana* and *Nidana*, which are comparatively modern.

ject; much has been said on either side, and we know that there are some very enlightened individuals, who acknowledge, that they begin to lose faith in the assumption, that the Hindoos had made great progress in the arts and sciences, at a time when other nations were, if I may use the expression, still in their cradle. Nay, these gentlemen further state, that they "have now the strongest grounds to suspect, that in many cases the knowledge of the Indians was borrowed at second hand, from the communication of their Persian and Arabic conquerors; who themselves had been instructed by the creative genius of the Greeks." (See Edinburgh Review, for May 1811.)

In opposition to this, Mr. Maurice observes, in his *History of Hindoostan*, (vol. i. p. 79.) "the genius of the Hindoos was ever too proud to borrow either ceremonies of religion, or maxims of policy from their neighbours; the Egyptians, if they did not appropriate to themselves the ancient mythological rites, and symbols, of India, have perhaps derived both from one primitive source of Cuthite profanation;" and it may be further noticed, that I have not been able to hear of any translations that ever were made of medical writings from the Arabic into the Sanscrit; but there is existing evidence of the borrowing of the Arabians from the Hindoos, which the reader may convince himself of, by referring to the list of Arabic books, in the second volume of this work.

Let us see what the learned Mr. Bryant has said on this point, in his *New System of Ancient Mythology* (vol. iv. pp. 256, 257.): "From circumstances of this nature many learned men have contended, that

the Indians and even the Chinese * were a colony from Egypt, while others have proceeded as warmly upon the opposite principle; and have insisted, that the Egyptians, at least their learning, and customs, are to be derived from the *Indi* and *Seres;* but neither opinion is quite true: nor need we be brought to this alternative, for they both proceed from one central place; and the same people who imported their religion, rites, and science into Egypt, carried the same to the Indies and the Ganges, and still farther into China, and Japan; not but that some colonies undoubtedly came from Egypt. But the arts and sciences imported into India, were derived from another family, even the Cuthites of Caldea, by whom the *Mizraim* themselves were instructed, and from Egypt they passed westward."

The Hindoo medical treatises (*Vaghdum*), we are told, were all written many hundred years ago, but at what exact periods it is next to impossible to ascertain; as dates are very rarely affixed to the manu-

* John Davis, Esq., in his admirable "*Memoir concerning the Chinese*," says, that from the race of *Chow* (B. C. 1100 years) we may date the authentic *history* of the Chinese; but that the *empire* of China cannot be dated earlier than about 200 years before Christ. The period of *Chow*, Mr. Davis observes, was distinguished by the birth of Confucius; though M. Chatfield is rather inclined to think, that he was cotemporary with Herodotus, who wrote 450 years B. C.: be that as it may, it was not till after the death of that great legislator that idol worship was introduced into China. Mr. Davis states, that it was at the same period (B. C. 1100 years) that *Buddha* was born in India; but that his religion was not introduced into China before the first century of the Christian era. Mr. Davis further notices, that, with the exception of this heresy, the Chinese appear to have borrowed nothing from their Western neighbours. The Hindoos did not impart their knowledge of astronomy to the Chinese, that was first introduced into China by the Arabians, and subsequently by European missionaries. See *Transactions of the Royal Asiatic Society*, vol. i. p. 1.

scripts, and whatever questions are put, touching particular eras, to those Brahmins who might be supposed best able to reply to them, they are invariably answered in an unsatisfactory manner; a lamentable fact, which is, I perceive, also noticed by Dr. Buchanan (now Hamilton), in his *Journey through Mysore, &c.* (vol. i. p. 335.)

The different nations or tribes of India have their respective medical authors, whose writings are of more or less repute. Those of the Hindoos of Upper Hindoostan are numerous, and are nearly all in Sanscrit. They are highly venerated, the natural consequence, we must conclude, of the very dignified character which the Brahminical institutions have long maintained. But the medical books which more particularly call our attention are those of the Tellingas and Tamools. Few of the first are composed in Tellingoo*, but in Sanscrit, and are either transcripts of tracts, common in the higher provinces, or written by some of the *Maharshies* (saints) of Lower India. They are all in verse, and remarkable for the minute, though strange descriptions they give of the symptoms of diseases; they at the same time betray a woeful ignorance of the internal economy and nicer functions of the human frame; and are but too often obscured by mystical illusions, and a blind belief in the powers of magic and enchantment.

The Tamool medical works, on the other hand, are many of them originally written in what is called high Tamool (Yéllácánum), which is allowed to be a

* The Tellingoo, though not the most energetic, is, certainly, from the frequency of vowel terminations, the softest of all the Eastern languages, with the exception of the Malay, which has been called the Italian of Asia, and is, no doubt, the sweetest and most musical language in the world, not even excepting the Italian.

richly cultivated language, and peculiarly energetic. The poetry* (Cāvi), in which all scientific works are written, is much admired by those who have made it a study; so liberal would appear to be the poetical license in permitting, as in the Greek, the transposing, altering, and occasionally altogether taking away certain letters, in order to harmonize and vary the rhythm; and so much care is ever bestowed on the construction of the various measures. Those sastrums are supposed to be more valuable than many which are written in Sanscrit; they are said to be less shackled with the mythological doctrines of the original *Ayur Veda*, to contain a greater number of valuable *formulæ*, and to show a still more minute attention to the enumeration of morbid symptoms; but, like them, they evince a firm conviction in the belief and intervention of evil spirits, and offer many curious rules for averting their machinations.

Before proceeding to offer to the reader a few extracts from a medical sastrum of high repute in Lower India, I shall lay before him a brief outline of the religious institutions of the Hindoos, with some account of the state of general science amongst them, which, although such discussions may not be immediately connected with the subjects treated of in the *Materia Indica*, will, I trust, be not altogether unacceptable, when it is recollected that the chronology, science, literature, &c. of this singularly interesting people, are all intimately interwoven with their mystical theology.

Mr. Chatfield, in his admirable work†, observes,

* There is this singularity in some of the *yellacanum* poetry, that the rhyme depends not on the last word of the line, but on the first; and the effect it has on the ear once accustomed to it is by no means unpleasant.

† See Chatfield's *Review of Hindoostan*, p. 153.

that, "whether the Hindoo mythology was founded on the dark enigmas of their astronomers, or the fictions of their poets disguising natural light, it is proved from the authority of a learned Orientalist, that their history, notwithstanding its claims to a much higher antiquity, cannot be traced farther back than 2000 years before Christ. Their early historians, as in all infant states, were their poets, their priests, and their philosophers; and therefore, whatever they relate is so much enveloped in mystery and fable, that belief is violated, and the path to truth is lost in the mazes of vague and uncertain conjecture."*

The Hindoos believe that all things have been derived from *Brahmā*, who is their God Creator; *Veeshnu* is their God Preserver; and *Seeva* (or *Mahdeo*) their God Destroyer†; yet it is singular, that however supreme the first-mentioned being is, there exists throughout all India not one temple‡ devoted to his particular worship as Creator; nor, amidst the numerous festivals of the Hindoos, is there one peculiarly consecrated to Brahmā. In

* According to the system of the Hindoos, it would appear, with respect to the age of the world, that from the commencement of the *satya yug*, which is the first of the four *yugs*, or great periods, to the present time, is comprehended a space of 3,892,919 years. *Bharat* is said by some to have been the first universal sovereign of India. Sir William Jones, however, supposes that *Rama* the son of *Cush* (who was preceded by *Bharat*) was he who established the first regular government in India; but the name, as Mills observes, by which chiefly the idea of universal sovereignty of India, and of the glory of art and science is combined, is that of *Vicramaditya*, who reigned till about the year of the *cali yug* (the fourth *yug*) 3101, which corresponds to the first of the Christian era. See Mills's *History of British India*, vol. i. p. 439. And this, as we have above stated, is about the period that the sect of *Fo*, or *Buddha*, was introduced into China from India, whence it was expelled by a bigotted priesthood.

† Also called the avenging god.

‡ At *Pooskhur*, near *Ajmere*, however, one is said to have been dedicated to Brahmā.

conversation once with a learned, I may say enlightened, pundit, I ventured, with some hesitation, to question him on this point, when he, with an air of candour, informed me, that much had been misunderstood, and much misrepresented on the subject of his religion, owing, perhaps, in a great measure, to the difficulty of rightly understanding the mysteries contained in the institutes of *Menu*, who was the first of created beings, the son of Brahmā, and their oldest and most holy lawgiver. He continued to state, that a *fabulous* account existed, which profanely represented Brahmā, while in the heavens, before the world was, to have, in one instance, acted improperly, and so to have it denounced against him as a punishment, that no temple should ever be built to him on earth: how strange, said he, to have any infirmity whatever ascribed to that great and wise being, who, in after time, was to be hailed *Creator!* and who is known first to have sprang from the Supreme Essence, the principle of Truth! "No!" added the intelligent Brahmin, "I believe it may be otherwise and more justly explained. Brahmā has no visible church on earth; and why? because nothing that mortals could erect could ever be worthy of him: he is the Almighty one, the first, the best, the most glorious, *whose shrine must be the heart of man, not built by his impotent hands! Veeshnu, Seeva*, and *Crishna**, sacred and powerful as they are, can only properly be considered as so many emanations from,

* *Crishna* is supposed to have been the son of *Devaci*, by *Vasudeva;* and is enthusiastically worshipped by the Hindoos; he is the darling god of the Hindoo women; is allowed to be equally heroic and lovely; and is by some conjectured to be *Veeshnu* himself in a human form. See *Asiatic Researches*, vol. i. pp. 260, 261. Calcutta edition. The life of *Crishna* may be found in the poem called *Bagavad Gēta*, composed by *Vyasa*.

so many types and symbols of, the higher divinity, and to them occasional incarnations have been allowed for the instruction and improvement of mankind! Brahma it was who formed the four great castes or tribes, into which the Hindoos are divided. The first, the *Brahmans*, or priests, who proceeded from Brahma's mouth, and who, notwithstanding their holy duties, are not prohibited from holding civil appointments. The second, the *Cshatriyas*, or *Kshatriyas*, these are the modern rajpoots, whose profession is war, to draw the bow, to fight and command, also to receive and give alms. The third, the *Visa*, or *Vaisyas*, destined to the employments of agriculture and traffic; and the last, the *Sūdras*, doomed to servitude, labour, and subjection. The sects of *Veeshnu* and *Seeva* have their peculiar characteristics, and not a little jealousy exists between them. The ceremonies at their respective fanes are very different, and their varying tenets, some have imagined, to have a corresponding influence on individual dispositions and habits of thinking: *Veeshnu* is appeased with the simple fruits of the earth, with milk, flowers, and herbs, and is worshipped as the munificent, the humane, the placid, and the Preserver: *Seeva*, on the other hand, is ever adored with a degree of fear and trembling; known as he is to be fierce and vindictive*, and distinguished, as the eloquent Mr. Chatfield has observed, "by penances and austerities the most revolting to the feelings of our nature; his shrines are generally darkened with gloomy horrors; his appearance is terrible; his features distorted; and even at the present day, peaceable and gentle as the spirit of the Hindoo ritual

* Corresponding with the *Ahriman* of the ancient Persians.

is, the Mahrattas, in other respects the most scrupulous observers of the religion of Brahma, are not exempt from the suspicion of an occasional, but secret, sacrifice of a human victim to *Cali*, the wife of Seeva, in his character of the Stygian Jove; and to this black goddess, with a collar of golden skulls, as she is seen exhibited in all her temples, it is known from the Vedas, that human sacrifices *were* anciently offered." *

Although the zeal of proselytism never seems to have animated the breast of the Brahmin, his religion, as Mr. Chatfield states, under various forms and modifications, has been widely diffused over Asia; it is not only the principal mode of faith of the Northern and Western provinces of India, but it has penetrated the mountains of *Thibet*, the kingdoms of *Ava*, *Pegu*, *Siam*, *Arracan*, and *Laos*, in fact, the Birman empire; nay, extended to the islands of the Indian ocean, to Tonquin, Cochin, and even China itself. It would seem that at some very remote period, certain differences having taken place amongst the followers of Brahma, a dreadful persecution ensued, which was the means of spreading the Brahminical tenets into other countries, as has been above mentioned; and the name of *Buddhists* became the distinguishing title of the dissenting sect.† When the great personage (Buddh) first made his appearance in

* What are called the *munis* in the Carnata, are demons of the first magnitude, and are, in fact, the male spirits of destruction, as the *saktis* are the female destroying spirits; the Brahmins do not worship them openly, but fear them, and make offerings privately to them to avert their vengeance. See Buchanan's *Journey in Southern India*, vol. ii. p. 168.

† The great change introduced by *Buddha* into Hindoo superstition, was to render it less sanguinary; he prohibited immolation of human sacrifices. See Miller's *Disquisition on the History of Medicine* (p. 97.)

the world is a disputed point: some authors would have it upwards of 3000 years ago, and that he was an incarnation of the Deity. The Thibetians suppose him to have been a native of Cashmire, and assign his birth to 1100 years before Christ, which corresponds with Mr. Davis's opinion. He has also been said to have been born a Siamite, but Kœmpher makes him out of African extraction. See Miller's *Disquisition on the History of Medicine*, p. 96. Percival, in his *Account of Ceylon*, informs us, that the religion of *Buddha** was introduced into that island about forty years before the Christian era, at the time of the Brahminical persecution. Another and singular notion respecting the sect in question is that entertained by Hyde (*Vet. Rel. Pers.* cap. v.), which is, that the name of the idol *Budd* was carried from Persia† to India, and that he is the same that

* Klaproth, in his *Asia Polyglotta*, would seem to give a preference to the date adopted by the Chinese for the birth of *Buddha*, viz. 1027 years before our era. The Cyngalese era, according to Dr. Davy, is A. C. 619. That of the Bhagavad-Amrita is 2099 years A. C. In pursuance of the Hindoo belief of the transmigration of souls, we are informed, that *Buddha* himself now exists in Thibet, under the form of the *grand lama*. See a valuable paper on this subject, in the *Oriental Herald* for May 1825, p. 390.

† The Siamese, who, as well as the Burmese, profess the Buddhist faith, say, that they received their religion from Kamboja, and from thence they trace it to Magadha in Hindoostan; and it is a curious fact, that the Bali character of Siam is the same as the Kamboja character, and differs from the Bali character of the Cyngalese, the Burman, or that of any other Buddhist nation. The Buddhists believe in the doctrine of metempsychosis, and will on no account destroy animal life. The statues of *Buddha*, in Siam, have the African features and curled hair, but the ears have not the distended lobes they have in the Burman empire. Perfect religious toleration exists in Siam, and proselytes are admitted by the Siamese from any other sect. For some account of the life of *Buddha*, the reader is referred to M. Klaproth's *Asia Polyglotta*, and an excellent memoir by M. Remusat, *On the*

is worshipped on Ceylon; and it is a truth which many testimonies conduce to substantiate, that the religion of the ancient Persians and that of the Brahmins were derived from the same source. Mr. Scotwaring, in his *Journey to Sheeraz*, says, it might be proved that the Brahmins once prevailed in Persia: and Sir W. Jones has remarked, that in the *Shah Namu* of Ferdusi, *Ky-kaoos*, one of their kings, is accused of being a Brahmin; added to all this, we may mention the early intercourse which certainly existed betwixt Iran and India; the resemblance which the ancient Persian, *Zend* (in which Zoroaster wrote), bears to the Sanscrit language; the division of the people into four castes or orders; the incarnations or appearances of *Máhabád* like those of Menu; their dread of polluting their rivers; and the peculiar regard shewn in their ancient temples to the preservation of the sacred fire.

I have already touched on the claims of priority which have been advanced in favour of the Hindoos, with respect to the cultivation of science and literature, as those come blended with the peculiar cast of their religious opinions; and here it may be considered as not irrelevant to quote again from Mr. Chatfield, "Whether it is to be believed that colonies were anciently sent from the Nile to the Ganges, and to China, or that the Western shores of the Red Sea and the plain of Thebaid were planted from India, there can be no hesitation in agreeing with Sir W. Jones, that the Egyptian, Indian, Grecian, and Italian superstitions proceeded from one central point, and

Origin of the Lamaic Hierarchy; both of which may be found amongst the valuable and erudite *Transactions of the Asiatic Society of Paris.*

that the same people carried their religion and sciences to Japan."

We learn from a *Dissertation on the Gods of Greece, Italy, and India**, by Sir W. Jones, that SONNERAT has referred to a publication by M. SCHMIT, which gained the prize at the Academy of Inscriptions: "On an Egyptian Colony established in India." This establishment Sir William is not inclined to dispute, but seems to hold it more probable that *they* (Egyptians) visited the *Sarmans* of India, as the sages of Greece visited them, rather to acquire than impart knowledge. But however all that may be, continues the great Orientalist, "I am persuaded, that a connection subsisted between the old idolatrous nations of Egypt, India, Greece, and Italy, long before the birth of Moses; but the proof of this position will, in no degree, affect the truth and sanctity of the Mosaic history; which, if confirmation were required, it would rather tend to confirm."† At another part of the same dissertation Sir William Jones observes, "That the Vedas were actually written before the flood I shall never believe; nor have we good reason to suppose that the Hindoos themselves believe it; but that they are very ancient, and far older than other Sanscrit compositions, I will venture to assert from my own examination of them, and a comparison of their style with that of the *Purans*‡ and the *Dermah Sastra*."§

* See *Asiatic Researches*, vol. i. p. 221, Calcutta edition.

† See same work and vol. p. 271.

‡ Eighteen *Puranas* are said to have been composed by the poet *Vyasa*, for the instruction and information of mankind.

§ Hindoo laws, a valuable comment on this sastra is entitled the *Mitacshera*. The word *dharma* signifying justice or the genius of justice. See *As. Res.* vol. i. p. 392, Calcutta edition.

Mr. Colebrooke, in his admirable *Essay* * *on the Philosophy of the Hindoos*, informs us, that there are two schools of metaphysics, called *Mimánsa* †, recognised by them: the prior one (*púrva*), which has *Jaimini* for its founder, teaches the art of reasoning; the latter (*vedanta*) is attributed to *Vyasa*, and goes to a denial of the material world. The *Nyaya* of Gótama teaches the strict rules of reasoning, and there is another course of philosophy, connected with this last, which is termed *Vaiseshica*, said to be composed by Canade, who, like Democritus, maintained the doctrine of atoms. Mr. Colebrooke observes, in the memoir just mentioned, that heretical treatises of philosophy are very numerous in Hindoostan; amongst these the *Charvaca*, which exhibits the doctrine of the *jaina* sect, is conspicuous, and next to it the *pasupata*. A collection of succinct aphorisms (sutras), in six lectures, is attributed to Capila, under the title of *Sanc'hya-Pravachana*. It would not be consistent with the limited view to which I must here confine myself, to follow Mr. Colebrooke through all his learned discussion, enough that I should refer the reader to it. In it he will find the doctrine of the schools of the *Sanchya*, which professes to instruct regarding the means by which eternal beatitude may be obtained after death, fully explained; and the abstract, and certainly very interesting notions of the Hindoo philosophers elucidated in the ablest manner, regarding nature, intelligence, consciousness; the organs of sense and action; the five elements; the soul, and the body; passions; errors; illusions, &c. The paper finishing with this

* See *Transactions of the Royal Asiatic Society*, vol. i. p. 19.

† Mr. Elphinston, in his *Account of Cabul* (p. 189.), says, that the Afghams are fond of metaphysics and dialectics.

remarkable sentence, taken from the *Carica :* " When the separation of the informed soul from its corporeal frame at length takes place, and nature, in respect to it, ceases, then is absolute and final deliverance accomplished!! "

In another essay on the same subject, or rather in the second division * of the same essay, Mr. Colebrooke observes, that having, in the first part, examined the *Sanchya*, theistical as well atheistical, he will now proceed to say something of the dialectic † philosophy of Gótama, and the atomical of Canáde, respectively called the *Nyaya*, *reasoning*, and *Vaiseshica*, *particular*. To this learned memoir I refer the reader, and to much more curious information regarding the subjects in question. It would appear, that the order observed by both (Gótama and Canáde), in delivering the precepts of the science they engage to teach, is three-fold; enunciation, definition, and investigation. Gótama seems to confine his investigation to reasoning. *Nyaya*, like the *Sanc'hya*, instructs us regarding the truth and conviction of the soul's eternal existence separable from the body. The *Vaiseshica* of Canáde, or, what is called above *particular*, chiefly relates to corporeal and organic substances, though it is not unmixed with much logical discussion.

With respect to the epic poetry of the Hindoos, if so it may be called, embracing as it does at once history, religion, and philosophy, it would appear that ancient existing fables had generally been chosen for the subjects of such compositions; and the reader may find an excellent account of them in

* *Transactions of the Royal Asiatic Society*, vol. i. p. 92.
† See note (†) in the preceding page.

a paper "On the Polite Literature of the Hindoos," in the *Oriental Herald* for September 1825. It is there stated, that "KALIDASA was the most celebrated of all the poets of this class, and equally distinguished as a dramatist; he was, according to a common tradition, one of the nine gems, or celebrated literary characters, at the court of Vikrama. Amongst the works ascribed to him, are 1. the *Raghuvansa*, or narration of the life and exploits of the family of *Raghu*, of which family *Rama* was one; this poem, therefore, includes, as a part, the same events which forms the specific subject of the *Ramayna*, which was composed by VALMIC, translated into English prose by Dr. Cary, and which Mr. Shlegel is now employed in translating into French or German. 2. The *Kumara Sambhava*, or birth of Kartikeya (the god of war); this is a mythological poem, founded on a tale which is recorded in the first book of the Ramayana. 3. His *Nalodaya*, which contains the same story, as it is found in one of the episodes of the *Mahabharata** ; in this poem (*Nalodaya*), Kalidasa is said to appear to disadvantage, when compared with the simple narration of his antient predecessor (the author of the *Mahabharata*)

* It would appear, that a translation of the *Mahabharata* into Persian has lately attracted much attention from the Asiatic Society of Paris, and that a paper on the subject had been laid before the society by Schulz. See *Transactions of the Asiatic Society of Paris* (cahier quarantième). Professor Bopp, who seems to be well acquainted with the translation in question, tells me, that the writer has altogether failed in giving the high poetical tone of the original. The *Mahabharata* is a well known Sanscrit epic poem, consisting of 100,000 *slokas*, or metrical verses; it describes the wars of the rival houses of Pandu and Kuru for the sovereignty of India, and was composed by *Krishna Dwaipayna*. Mr. Wilkins has translated several beautiful episodes of it; and Professor Bopp is now engaged in editing portions of the same poem.

though the *Nalodaya* does contain some fine poetry. One of the minor pieces of Kalidasa, and one of the best, is called the *Megha-Dūta*, or cloud messenger; it has been translated into English verse by Horace Hayman Wilson, Esq., Secretary to the Asiatic Society."

"The next poet of the epic order is SARIHARSTA, remarkable for the merits and faults peculiar to Indian poets; this author has chosen the same story as Kalidasa, in his *Nalodaya*, and extended his poem to twenty cantos, though the original consists but of five. It would be tedious to give a long list of the names and titles of the other poets belonging to this class, we shall only mention that the two most celebrated are MAGHA, the author of the *Sissupala*, and PHAIRARI, whose work is entitled *Kiratarjuniya*, or combat of *Arjuna* with the *Kirata*, a tribe of mountaineers."

"Amongst the poets of a later age, imitators of the greater epic authors of antiquity, we may reckon KAVIRAJA, who wrote the work entitled *Raghupanda* (king of the poets). Another is BHARTRIHARI, who wrote the *Bhattikavya*; it treats of the same subjects as those contained in the Ramayana; but what is singular in this poem is, that the author has made it his study, that in this composition should be found all the inflections of the Sanscrit language, and particularly all anomalous exceptions from the general rules."

The *Heetopades* of VISHNOA-SARMA, a most interesting work, containing a series of connected fables, and many excellent moral sentiments, it has been translated into English by Mr. Wilkins, the same Oriental scholar who translated the *Bhagavad Gēta*, or dialogue betwixt Krishna and Arjoon, upwards of forty years ago.

As to dramatic poetry, the *Sakontala* of Calidas, a work of great merit, has been translated by Sir William Jones, who calls its author the Shakspeare of India. The story upon which the play was founded has also been translated into English by Mr. Wilkins.

On the subjects of arithmetic and geometry, the natives of India have many works: on the first, perhaps, the most celebrated is the *Lilāvatī*, translated into English by Dr. John Taylor * ; a treatise on algebra, the *Vija-Ganita*, and so accurately translated, by every account, by Mr. Colebrooke, has excited sufficient sensation in Europe; and there is, I fancy, little doubt, but that the algebraic characters brought into Europe from Arabia were originally from India.

It is by no means my business here to enter upon the great question connected with the astronomy of the Hindoos, having neither science nor oriental lore sufficient for the discussion; I shall therefore merely observe, that there have been very serious differences of opinion with respect to the age in which the great astronomical work, the *Surya Siddhanta*, was written. Mr. Bentley, at one period, affirmed that he believed it to have been composed by *Varaha*, A. D. 1060; in a posthumous work, however, he appears to have altered his opinion, and adopted the notion of *Varaha*'s being an impostor of a recent date; indeed, he would seem altogether latterly to have become thoroughly sceptical on such points, going so far as to doubt if the *avatars* or descents of the Hindoo deities, under various forms of incarna-

* The same excellent scholar also translated a drama called the *Prabodha Chandrodya*, or the Rise of the Moon of Intellect.

tion, were not an invention of the Brahmins, particularly that of *Krishna* (in imitation of Christ). But, to return to the *Surya Siddhanta*, Mr. Colebrooke, and we desire no better authority, has told us, that he believes the work to be 1300 years old. Mr. Mill, in his *History of India*, very justly remarks, that of all the arguments in favour of the antiquity of the Hindoo astronomy, the strongest is that of Le Gentil, having brought home with him, from Hindoostan, an ancient zodiac. On the other hand, Mr. Playfair declares, that the astronomy of that people gives no theory, nor even description of the celestial phenomena, but merely satisfies itself with the calculation of the changes in the heavens.

In botany, with regard to arrangement, little or nothing has been done by the inhabitants of the Indian continent, but they have been great observers of the natural qualities of plants. In geography they have, perhaps, done still less. In many of the arts*, on the other hand, they are not surpassed by any nation on earth: witness the perfection to which they have brought, with the simplest implements possible, their weaving †, dyeing ‡, stone-cutting, bleaching, agriculture, &c. But, to sum up the

* The *Silpey Sastra* is the Sanscrit name of a book in high repute in Lower India, and which is said to treat of the arts and manufactures of the Hindoos. Mr. Colebrooke informs me, that such is the proper title of all or any treatise on the mechanical arts in India; but that he had, in the North of Hindoostan, only met with one small tract which might be classed under this head; it was on architecture.

† See Sonnerat's *Voyages*, book iii. chap. viii.

‡ See Goquet's *Origin of Laws*, book ii. chap. ii.; see also Plutarch's *Life of Alexander*, Tennant's *Indian Recreations*, Crawfurd's *Sketches of the Hindoos*, &c.

whole, and what is, perhaps, more to their credit than all their other inventions, behold the Sanscrit language! which, certainly, for the perfection of its construction, its richness, its copiousness, its energy, its harmony, and, above all, the peculiar grace of its various inflections, is without an equal in the world: truths to be best understood, by an attentive study of the philological and critical writings * of those men of whom England is justly proud, and whose names must ever live while talent can dignify, or oriental literature be revered. Perhaps I cannot conclude this part of my Preliminary Observations better than by an eloquent eulogy on India, which I have found, in a foreign work (*Religions de l'Antiquité*, par J. D. Guigniaut): "If there is a country on earth which may claim the honour of having been the cradle of the human race, that country is India; if there is a religion which explains itself by the powerful impression of nature, and by the free inspirations of the mind, the forms and conceptions of which are at once simple and profound; that religion we find still flourishing on the banks of the Ganges, with its priests and its fanes, its sacred books, its poetry, and its moral doctrines. Always ancient, yet always new, India stands over her ruins, like an eternally luminous focus, in which are concentrated those rays which for ages enlightened the world, and which can never cease to shine!"

The following extracts are taken from a translation of *Aghastier Vytia Anyouroo*, a medical sastra, written in *yellacanum*, or Tamool verse; they are

* Amongst these may be reckoned the *Sanscrit Grammars* of Mr. Wilkins and Mr. Colebrooke, the *Amera Cosha* of the latter, the *Sanscrit Dictionary* of Horace Hayman Wilson, Esq., &c.

brief, but may be sufficient to convey some idea of the manner of such performances. Should the reader be curious to see quotations more in detail of an Indian medical writing (*Kalpastanum*), he is referred to *Dr. Heyne's Tracts on India*, pp. 125 — 148.

"*Signs of a bilious and irritable habit.* A person of what is called a bilious habit, generally becomes grey very early in life; he is easily made to perspire; his eyes are often inflamed, while his body is pale; he is impatient, perverse, opiniative, and consequential; and for the most part very amorous; the conversation of such an individual is unguarded; he is addicted to falsehood, fond of abstruse studies, yet is he more partial still to the praises that are bestowed on himself."

"*Causes of fever.* An exposure to the heat of the sun, at an early hour of the morning, while fasting; eating voraciously any food of a very hot nature, when the body has been previously weakened by extreme hunger or fatigue; drinking stagnated water, into which withered leaves have fallen; taking a full meal without appetite; unseasonable weather; sudden vicissitudes of temperature; wooded, ill-ventilated valleys; neglected adoration of Crishna; air we have not been accustomed to, whether that of the plains or mountains; the malign influence of an evil spirit or *dewta;* checked perspiration; fear; grief; sleepless nights; long-continued constipation; in a word, whatever exposes our mortal frame to deviations from its natural and accustomed movements! or clogs nature so much, that it requires great agitation, and consequent heat to bring the body back to sound health."

" *What constitutes a good physician.* The sages of antiquity (*maharshies*) have thus handed down to us the qualities which constitute a good physician: he must be a person of strict veracity, and of the greatest sobriety and decorum, holding sexual intercourse with no woman, except his own wife; he ought to be thoroughly skilled in all the commentaries on the *ayurveda*, and be otherwise a man of sense and benevolence; his heart must be charitable; his temper calm; and his constant study how to do good. Such an individual is properly called a good physician, and such a physician ought still daily to improve his mind by an attentive perusal of scientific books (vághádum).

" When a patient expresses himself peevishly or hastily, a *Vytian*, so endowed, will not thereby be provoked to impatience; he remains mild, yet courageous, and cherishes a cheerful hope of being able to save the sufferer's life; he is frank, communicative, impartial and liberal, yet ever rigid in exacting an adherence to whatever regimen or rules he may think it necessary to enjoin. Should death come upon us, under the care of this earthly saint, it can only be considered as inevitable fate, and not the consequence of presumptuous ignorance."

The Hindoo medical writers generally preface their works with an account of climate, weather, situation, soil, &c.; they are very particular in their directions regarding the proper time of the year for collecting medicines, as well as the mode of preparing them, ascertaining their doses, and prescribing them; they are most minute observers of the state of the pulse, and place great faith on a strict observance of proper diet. *Diagnosis* they arrange under

the seven following heads: temperature of the body; the appearance of the eyes; the mode of speaking; the colour of the face and body; the state of the urine; of the stools; and of the tongue. Some of their notions of *prognosis* are excellent, others very strange, nay, truly absurd. As an example of the first, I would mention those favourable symptoms: when the natural tones of the patient's voice remain unaltered; when he wakes from sleep without agitation; and when eating rather cools than heats his frame. Amongst the second I have been amused with this, "Attention to the position of stars may likewise give us considerable information respecting the fate * of our patient." But one of their most happy indications of returning health (and the sentiment is virtuous and laudable) is, when the sick person forgets not his God amongst his sufferings, but daily prostrates himself in prayer with humility and resignation.

I shall not, perhaps, find a better occasion than the present to do what I conceive to be a justice to the Hindoo medical men, attacked as they have been somewhat roughly by Monsieur Sonnerat, in his excellent and interesting "*Voyage to the East Indies*," (vol. ii. pp. 136, 137. English Trans.) That gentleman says, that the Indians are mostly all pretenders to some knowledge of medicine; that there is not one physician amongst them more learned than another; that they are generally individuals who have been washermen, weavers, or blacksmiths, but a few months before; and, to crown all, that they administer few remedies internally, and make little

* See a translation of the *Kalpastānum* by Dr. B. Heyne, in his *Tracts on India*.

use of ointments or cataplasms. In reply to the latter part of this gentleman's remarks, I shall only offer a perusal of the second chapter of this part of the work, and the list of Tamool medical books in that chapter; to the former I must say, that either Mr. Sonnerat has been a little remiss in his inquiries; or that I have been peculiarly fortunate in meeting with *Vytians* of a very different description from those he alludes to. That there may be occasionally found in India, as well as other countries, men, who with more impudence than education or talents, push themselves into notice, will not be disputed; but it is as certain that there are many Hindoo physicians who are doctors by long descent, who from their early youth have been intended for the profession, and taught every thing that was necessary respecting it. Not a few of them have I known, who were not only intimately acquainted with all the medical *Sastras*, great part of which they knew by heart, but who, in other respects, were in their lives and manners correct, obliging, and communicative. And I am happy to see that a character nearly similar to this, has been given of the same description of people in Bengal, by Sir William Jones, who speaks of them in the following terms: "All the tracts on medicine must indeed be studied by the *Vydyas* (doctors), and *they have often more learning and far less pride than any of the Brahmins*; they are usually poets, grammarians, rhetoricians, and moralists; and may, in fact, be deemed the most virtuous and amiable of the Hindoos." And are we not told, that so highly has medical skill been prized by the Indians, that one of the fourteen *retnas*, or precious things, which their Gods are be-

lieved to have produced by churning the ocean, was a *learned physician!* *

There are no medical tracts of any note in Dukhanie †. Such of the *Hakeems* (Mahometan doctors) as have any pretensions to learning are sufficiently well accquainted with the Persian and Arabic, to read with ease the professional works that are written in those languages; and some of them, by combining a knowledge of the Tamool Materia Medica, with the opinions and doctrines which they find in the books they peruse, possess a great deal of information, and are, in general, men of polite manners, unassuming, liberal minded, and humane.

It is with great diffidence that I enter upon the subject proposed in this volume of the work, yet when I consider how little attention has hitherto been paid to the Materia Medica of the Hindoos, and how scanty are, consequently, the sources of knowledge regarding it, I am induced to hope, that every allowance will be made for whatever defects may appear. Anxious I certainly have been to procure some guide in the investigation, some manual in one or other of the languages of Europe, that might have aided me in the prosecution of so interesting an inquiry; but I looked in vain. I have, therefore, been under the necessity of altogether trusting to what information I could collect

* See *Asiatic Researches*, vol. i. p. 408, Calcutta edition.

† Dukhanie is the language currently spoken by the Mahometans of Lower Hindoostan. It has a great affinity with the Hindoostanie of the higher provinces; like it too, it has two different styles, viz. the low jargon of the common people, which is a very poor dialect, and that in use amongst the more enlightened and high-cast *Moosulmāns*, which, by containing a great many *Persian*, *Arabic*, and even *Sanscrit* words, is rich, copious, expressive, and energetic.

from Aghastier's work, already mentioned, and other Sastrums, as also from the general botanical works of Rheede, Rumphius, and Loureiro, and from such *Vytians* and *Hakeems* as appeared to be the best suited to assist me, with occasional hints from the writings of Dr. Roxburgh and the travels of Buchanan* (now Hamilton). For the Hindoostanie names of many articles, as well as much useful information, I am indebted to Dr. Fleming's "*Catalogue of Indian Medicinal Plants and Drugs*," a work so admirably executed, that it is only to be regretted that it is not more voluminous; and since the publication of my "*Materia Medica of Hindoostan*," I have to state, that I have seen Dr. Heyne's "*Tracts Historical and Statistical on India*," in which the names of several native medicines are given, but scarcely one word of their virtues, or external appearances.

The articles employed by the Hindoos in medicine are extremely numerous, much more so than those of any Materia Medica in Europe†; and in the

* *Journey through Mysore, Canara*, &c., also *Through some of the more Northern Tracts of Hindoostan.*

† Baron Humboldt has informed us (*Journal of Science*, No. xxiv. p. 338.), that of cryptogamous and phanerogamous plants we now have discovered upwards of 56,000; might it not be interesting to ascertain what proportion of those had medicinal or other virtues? I am acquainted with no modern writer, except Mr. Catteau (in his *General View of Sweden*, p. 5.), who has turned his attention particularly to this subject; he tells us, that out of 1300 plants that are in that country, 200 are possessed of medicinal properties. The ancients, with much less science, seem to have been more observant of such matters: Theophrastus, who wrote about 300 years before Christ, in his history of plants, entitled Περι φυτων ιστοριας, describes 500 that were officinal. Dioscorides, who was a native of Anagarba in Cilisia, and who flourished in the time of Nero, wrote a work on the Materia Medica, called Περι υλης ιατρίχης, in which he gives some account of 600 plants. And Pliny, who lived a short time before Christ,

state of empirical obscurity in which the science is still sunk in India, it will readily be believed that many substances * are daily prescribed with but trifling virtues, if, indeed, any to recommend them. As for those of which I am now about to give some account, I can only say, that in my selection, I have been entirely influenced by the opinions of the native practitioners, whom I consulted in the research; nor can I, from any positive practice of my own, aver that the properties of many of the different drugs are such as they are said to possess. It is true, that to gain the best verbal information respecting them, every exertion in my power has been made; yet it must be confessed, that much is still to be performed to bring this branch of Hindoo medicine to a state even approaching to perfection. Nay, in the present attempt, I am well aware that I have done little more than call the attention of the medical men of India to a subject, which has, hitherto, perhaps, been too much neglected; and I shall, therefore, consider myself as not ill requited for my efforts, if these pages should prove but the happy means of exciting in others a curiosity that may ultimately lead to greater undertakings and more definite and valuable results. In the mean time I cannot too strongly inculcate the greatest caution in administering many of the medicines included in this chapter; the greater number by far of which can be

with all the accumulated information of his predecessors, has only noticed 1000. See Dr. A. T. Thomson's *Lectures on the Elements of Botany*, vol. i. p. 7, &c.

* The reader may find a nearly similar character given of the Materia Medica of the Indian islanders by Dr. Horsfield. See his account of the medical plants of Java, in the eighth volume of the *Transactions of the Batavian Society*.

viewed in no other light than as objects for further and patient investigation. The crude notions of the *Vytians* (industrious and well-meaning, however, those individuals may be), though they may ultimately lead to important truths, are not to be taken without distrust. That various substances, possessing powerful qualities, have been brought forward, will not, I presume, be disputed; that others, of more dubious or trifling properties, have also found a place, I am willing to admit. Let it be the business, then, of future experience to confirm or reject whatever may be ascertained to be in its nature sanative, benign, narcotic, or altogether inefficacious.

There are other embarrassments which I must here notice, amongst those which I have had to encounter on the present occasion; for instance, the imperfect condition in which a great many of the medicines are found in the bazars; old, dry, and not seldom decayed. I have frequently been obliged to take on trust a description of their characterizing taste and smell; at other times, the root, or bark, or leaf, called for, was not to be found; so that I was under the necessity of giving an account of it from the observation of others. With no pretensions whatever to any critical knowledge of botany, I have, in every instance, trusted to the best descriptions which it was in my power to obtain from other sources. Such obstacles being in my way, it can easily be conceived how great the difficulties * I must have combated, in ascertaining the scientific names of the different plants, several of which, it will be observed, I have altogether failed in discovering; and for many of those inserted, I am indebted to the kind friendship

* A difficulty, increased by different names being often given to the same plant in different districts.

of the Rev. Dr. Rottler, whose scientific skill and accurate acquaintance with the native languages, so peculiarly fit him for Indian research.

The greater number of the articles mentioned in this volume, are parts of plants which grow in India; and are to be met with in the jungles, amongst the woods of Malabar, and mountains of the lower tracts of the peninsula, and, more especially, in Travancore *, that country so beautiful, so rich, I may say, in vegetable productions; others are the produce of neighbouring or distant Asiatic territories, a circumstance which adds greatly to the difficulty in ascertaining the botanical appellations of the plants to which they belong.

NAMES † IN SOME OF THE ORIENTAL LANGUAGES OF THE DESCRIPTION OF PLANTS, AND THE PARTS OF PLANTS, THAT ARE USED IN MEDICINE IN INDIA.

1. A TREE. *Márum* மரம் (Tam.) *Jār* جهار (Duk.) *Shujur* شجر (Arab.) *Gaha*, also *Ghas* (Cyng.)

* I cannot help expressing a regret, that in that singular country, fitted by climate and soil for the cultivation, perhaps, of every vegetable produce which any part of the torrid zone affords, it has never been attempted to rear those articles of the Materia Medica for which the world is now solely indebted to America. Travancore, and Malabar also, no doubt, possess (notwithstanding the great exertions of Rheede) many curious and useful plants which have not yet come within the reach of scientific investigation.

† It may be further here noticed with regard to names bestowed often on plants in Ceylon, that *hin* is little; *hen* is high ground; *kalu*, black; *katu*, thorny; *rasa*, sweet; *rata*, foreign; *ratha*, red; *sudu*, white; *wal*, wild; and *eea*, white.

2. A SHRUB. *Chéddie* செடி (Tam.) *Roope* روپ (Duk.) *Nabāt* نبات (Arab.) *Stamba* स्तम्ब (Sans.)

3. A CREEPER. *Códie* கொடி (Tam.) *Bayl* بيل (Duk.) *Khuzzib-bath* قصبيات (Arab.) *Vāllie* (Sans.) *Wæl* (Cyng.)

4. ROOT, BULBOUS. *Kálung* கிழங்கு (Tam.) *Gudda* ಗಡ್ಡ (Duk.) *Ussilie sitabur* اصل ستابر (Arab.)

5. ROOT, COMMON. *Vayr* வேர் (Tam.) *Jur* جر (Duk.) *Ussil* اصل (Arab.) *Mul* (Cyng.)

6. BARK. *Púttay* பட்டை (Tam.) *Chāwl* چهال (Duk.) *Kushir* قشر (Arab.)

7. MILKY JUICE. *Pawl* பால் (Tam.) *Dood* دود (Duk.) *Lúbn* لبن (Arab.) *Kiry* (Cyng.)

8. SEED. *Vĕrie* வித்து (Tam.) *Beenge* بينج (Duk.) *Buzzir* بزر (Arab.)

9. TENDER SHOOTS. *Kólindoo* கொழுந்து (Tam.) *Kaunglapāt* كنولاپات (Duk.) *Vurk-lyin* ورق لين (Arab.)

10. LEAF. *Elley* இலை (Tam.) *Paat* پات (Duk.) *Vurk* ورق (Arab.) *Patra* पत्र (Sans.)

11. BUD. *Aroombu* அரும்பு (Tam.) *Kulli* كلي (Duk.) *Zúhir* زهر (Arab.) *Jālaka* जालक (Sans.)

12. FLOWER. *Poo* பூ (Tam.) *Phool* پهول (Duk.) *Vurd* ورد (Arab.) *Mal* (Cyng.) *Pushpa* पुष्प (Sans.)

13. Fruit. *Pullum* பழம் (Tam.) *Phull* پهل (Duk.) *Summir* ثمر (Arab.) *Phala* फल (Sans.)

14. Gum. *Pisin* பசை (Tam.) *Gond* گوند (Duk.) *Sumagh* صمغ (Arab.)

15. Nut. *Cottay* கொட்டை (Tam.) *Pull* پهل (Duk.)

MATERIA INDICA.

PART II.

CHAPTER I.

MEDICINES IN USE AMONGST THE HINDOOS, AND OTHER EASTERN NATIONS.

I.

AAT-ALARIE ஆகஅலரிசே (Tam.) *Velutta-modela-mucu* (Rheede).* *Bartiger knoterig* (Nom. Triv. Willd.) *Ratukimbul-wenna* (Cyng.) *Leao-xi* (Chin.) *Rio* (Jap.) *Bearded polygonum.*

POLYGONUM BARBATUM (Lin.).

Cl. and Ord. Octandria Trigynia. Nat. Ord. Holoraceæ.

This annual plant, which has "an herbaceous rufous *stem; stipules* loose and sheathing, set with strong bristles almost the length of the stipule itself; *flowers* hexandrous, trigynous, and *spikes* rod-like,"

* Mal. 12. 145. t. 77.

is common in the Coromandel woods. Retzius and Thunberg have both distinguished three varieties; the latter remarks, that what is peculiar to the Malabar variety is, "that it is smooth all over, the stipules only toothletted, and the bractes quite entire." The seeds of the *aat-alarie* are dark and shining; the leaves, which are longish and lanceolate, are used as medicine by the Hindoo practitioners; they are ordered in infusion to ease the pain of griping in colic. The plant is the *kunda-mallier* of the Tellingoos.* Fourteen species of polygonum grow in the botanical garden of Calcutta, ten of which are indigenous to India.†

II.

ACHIE PATCHIE ELLEY (Tam.) or *Pachie elley* பசுமைபடர்இலை (Tam.).

This is a Tamool name, which signifies "the green leaves of Acheen." They, as they are seen in the medicine bazars, are dry and wrinkled, and have a very pleasant and sub-astringent flavour, not unlike black tea; all I can learn respecting them is, that they are held in high estimation amongst the Hindoo medical men as stomachic and sedative, given in infusion. Another sort is, I understand, brought from Ceylon, of nearly similar virtues, and is called *cŏlŭmbo patchie elley* (Tam.).

* The species of polygonum *Persicaria* is a medicinal plant in the West Indies; an infusion of the leaves is considered as a powerful discutient. See Hortus Jamaicensis, vol. i. p. 32.

† The species *aviculare* (knot grass) is considered as a medicinal plant in *Bahar;* its Sanscrit name is *miromali;* in Hindoostanie it is *machoti* (Hamilton's MSS.).

III.

ADATODEY ELLEY அடாதோடையிலை (Tam.) *Adāsárá pākoo* (Tel.) *Adhotoda* (Cyng.) *Leaves of the Malabar nut. Uroos*, also *Vasica* also *Attarusha* (Sans.)

JUSTICIA* ADHATODA (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Treibende Justice* (Nom. Triv. Willd.).

This large shrub, which is the *bakus* of the Bengalese, is common in Lower India, but is, properly speaking, a native of Ceylon, and is the *adhatoda zeylonensium* (*Herm. Lugd. b.*). Of the essential character, Willdenow says, "*Cal.* simplex, s. duplex; *cor.* 1-petala irregularis; *caps.* ungue elastico dissiliens, dissepimentum. contrarium adnatum" (Spec. Pl. i. 48.).

On Ceylon, the Malabar nut tree is said to grow to the height of fourteen or fifteen feet, and is there called *wan-œpala;* but I have never seen it in the peninsula more than seven or eight. "It rises with a strong woody stem, sending forth numerous branches; the leaves are about five inches long and three broad, opposite, and lance-shaped; the flowers on short spikes at the end of the branches; the corolla is white with some darkish spots."

The flowers, leaves, and root†, but especially the

* A species of justicia (pectoralis) is held in high repute in Jamaica, as a pectoral medicine; a syrup is made of it. The bruised leaves are serviceable in cuts. The French name of the plant is *herbe à charpentière.* See Lunan's Flora Jamaicensis, vol. i. p. 432.

† To which (root) Revinus gave the name of ecbolium.

first, are supposed to possess antispasmodic qualities; and are prescribed in certain cases of asthma, and to prevent the return of rigour in intermittent fever; they are bitterish and sub-aromatic, and are administered in infusion and electuary. In the last-mentioned form, the flowers are given to the quantity of about a tea-spoonful twice daily. The wood of the plant is soft, and well fitted for making charcoal for gunpowder. See Flora Indica, vol. i. p. 128.

IV.

ADDATINAPALAY ஆடுதீண்டாபாலை (Tam. *Gādíday gudda purra* (Tel.) *Floral-leaved birthwort. Cattrábūnghá* (Sans.)

Aristolochia Bracteata (Retz.).

Cl. and Ord. Gynandria Hexandria. Nat. Ord. Sarmentaceæ. *Beblatterte Osterluzey* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "*Cal.* 0; *cor.* 1-petala, lingulata, basi ventricosa; *caps.* 6-locularis, polysperma infera" (Spec. Plant. iv. 1609.).

This species of birthwort, which may be seen in the botanical garden of Calcutta, appears to have been first noticed by Kœnig, in the neighbourhood of Madras; it usually "grows to the height of about four or five feet, with a flexuose, striated *stem;* the *leaves,* which are of a pale-green, are obtuse, heart-shaped, with wavy edges, and about an inch and a half long, and nearly as broad; the *flowers* are solitary; and the *bractes* cordate petioled." The plant has the bitterness which distinguishes many of

its congeners. An infusion of the dried leaves is given by the native practitioners as an anthelmintic; the medium dose about ʒij., twice daily. When fresh* bruised, and mixed with castor-oil, they are considered as a valuable external remedy in obstinate psora.† Dr. Fleming informs us, that the root of the *aristolochia Indica* is supposed, by the Hindoos of Upper India, to possess emmenagogue and antarthritic virtues; and from its bitterness, he thinks, it may be useful in dyspepsia. The plant is *isarmel* in Hindoostanie; *dulago-vila* in Tellingoo; *cay-khoaica* in Chinese; *hari* in Sanscrit; and *sat sanda* in Cyngalese. The aristolochia odoratissima, a native of the West Indies, Lunan‡ says, is, as a bitter and alexipharmic, a most valuable medicine, being powerfully tonic, and stomachic; he adds, that the roots and seeds cure the bites of snakes, and make the best bitter wine in the world!!!

V.

ADDALEYUNNAY ஆதலையாமணக்கண (Tam.) *Ohab* عهب (Arab.) *Nela ameda* (Tel.) *Oil of the glaucous-leaved physic nut.* *Nikumba* (Sans.)

JATROPHA GLAUCA (Vahl.).

* The fresh leaves of this plant, applied to the navel of a child, are said to have the effect of moving the bowels. The same, fried with castor-oil, and made into a ball of the size of an orange, and given to a horse suffering from the gripes, are said to produce evacuations, and relieve when other medicines have failed.

† What the Tamools call *carpang*.

‡ See Lunan's Hortus Jamaicens. vol. i. p. 232.

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Tricoccæ. *Meergrune Brechnuss* (Nom. Triv. Willd.).

Of the essential character, Willdenow says,

"Masculi. *Cal.* 0; s. 5-phyllus; *cor.* 1-petala, infundibuliformis; *stam.* 10, alterna breviora.

"Feminei. *Cal.* 0; *cor.* 5-petala, patens; *styli* 3, bifidi; *caps.* trilocularis; *sem.* 1." (Spec. Plant. iv. 1719.)

This plant, which is a native of Arabia* as well as India, has an herbaceous *stem*, which "rises to the height of about one foot, and is quite erect and pubescent; the *leaves*, which are five, and sometimes three-cleft and serrate-toothed, are smooth, glaucus, and almost veinless; *petioles* subvillose, longer than the leaves, without glandular hairs; *bractes* lanceolate, awl-shaped; *petals* of the female flower the length of the calyx, ovate; *capsule* nearly as large as a hazel nut, muricated; *seed*, the size of a pea, and in shape like that of the *ricinus*" (*Miller*).

From the seeds the *Vytians* (Hindoo doctors) prepare, by careful expression, an oil which, from its stimulating quality, they recommend as an external application in cases of chronic rheumatism and paralytic affections.

Four species of jatropha grow in the Honourable Company's botanical garden at Calcutta; two of which are natives of India, and two of America.

* Forskahl, in his Account of Arabian Plants, has called it *croton lobatum*.

VI.

ADIEVEDYUM அதிவேடயம் (Tam.) also *Polie adievedyum* (Tam.) *Uttie vussa* (Tel. and Sans.).

Adivédyum is the name of a root which is found in the native druggists' shops, in pieces about an inch long, and of a whitish colour; it is intensely bitter, and is prescribed in powder and in infusion as a tonic and stomachic, especially in long-protracted bowel complaints. I could not procure a sight of the fresh plant. Of the powder, the quarter of a pagoda weight is given twice daily.

VII.

AGASATAMARAY (Tam.) *Untaréi-tāmárá* (Tel.) *Kodda pāil* (Rheede). *Untergungha* انتر گنگا (Duk.) *Toka-pana* (Hind.) *Water soldier? Untarei-tāmárá* (Sans.)

PISTIA STRATIOTES (Lin.).

Cl. and Ord. Monadelphia Octandria. Nat. Ord. Miscellaneæ. *Schwimmende Muschelblume* (Nom. Triv. Willd.).

This beautiful and stemless annual plant does not appear, hitherto, to have got any very distinct English name, but is the *plantago aquatica* of Rhumphius (Amb. 6. t. 74.). It would seem to be equally a native of Asia, America, Jamaica, and Africa,

and is constantly found floating on stagnant pools.* Miller says, " Roots many, a foot and a half long, put forth simple fibres from their circumference an inch and a half in length and numerous." The leaves are sub-sessile, wedge-shaped at the base, elliptic, radiate-veined, and, when the plant is young, are about twenty in number, spread out in a circle like a rose; the flowers are white, inodorous, and axillary. The pistia stratiotes is the only species of its genus.

The essential character is, *cal.* spatha tubuloso, cucullata lingulata; *cor.* 0; *filamentum,* laterale; *antheræ,* 3-8; *styl.* 1; *caps.* 1-locularis polysperma (Spec. Plant. Willd. iii. 1265.).

The Hindoo doctors consider a decoction or infusion of this plant as cooling and demulcent, (though Brown seems to think the Jamaica plant acrid), and prescribe it in cases of dysuria (*mootray kritchie*), in the quantity of about ten pagodas weight twice daily; the leaves are made into a poultice for the piles.

VIII.

AIL-PUTTAY (Tam.)

A yellowish, subaromatic tasted bark, used in decoction in fevers. The botanical name of the plant is not ascertained, the bark is brought from the woods.†

* Browne (330.) found the plant in Jamaica; and by Moon's Catalogue of Ceylon Plants, it appears to be a native of that island, and known by the name of *diya-parandæl.*

† I am told it is also sometimes called *tolziputtay;* the bark, beaten, is applied, externally, for rheumatic pains.

IX.

ALAMANDA CATHARTICA (Lin.).

I give this a place here merely from having seen it growing in great luxuriance in the Mission garden at Tranquebar; and, therefore, supposing it may be a native of some of our Indian woods. It is the *purgirende Allamanda* of Willdenow (Nom. Triv.), who says of its generic character, "Contorta, *caps.* lentiformis, erecta, echinata, 1-locularis, 2-valvis, polysperma" (Spec. Plant. i. 479.). It is a beautiful milky shrub, with a twining *stem*, and climbs high on trees; "its *leaves*, which are shining and quite entire, are arranged in fours round the stem, on very short petioles, and are elliptic, lanceolate; the *flowers* are large, terminale, and the corolla yellow." Like the last-mentioned article but one, it is the only species of its genus, and is of the *cl. and ord. Pentandria Monogynia.* The plant grows wild at Surinam, where the Dutch consider an infusion of its leaves as a valuable cathartic; it got the name of *orelia grandiflora* from *Aublet*, in his "Histoire des Plantes de la Guiané."

The Alamanda cathartica is growing on Ceylon; it also, I find, is in the Honourable Company's botanical garden at Calcutta, introduced, it would appear, by W. Hamilton, Esq. in 1803. See Hortus Bengalensis, p. 19.

X.

ALAVEREI ஆலவேரை (Tam.) *Marrivittiloo* (Tel.) *Bér ka beenge* بیڑ کا بیںنج (Duk.) *Seed of the Indian fig-tree. Nyagrodha*, also *Vātta*, also *Chiravrutchali* (Sans.).

FICUS INDICA (Lin.).

Cl. and Ord. Polygamia Dicœcia. Nat. Ord. Scabridæ. *Ostindische Feige* (Nom. Triv. Willd.).

The tree which produces the seeds in question is one of the largest and most beautiful in the world. Of the essential character Willdenow says, "Receptaculum commune turbinatum, carnosum, conveniens, occultans flosculos vel in eodem vel distincto,

"MASCULI. *Cal.* 3-partitus; *cor.* 0; *stam.* 3.

"FEMINEI. *Cal.* 5-partitus; *cor.* 0; pistillum 1; *sem.* 1., calyce persistenti clauso subcarnoso tectum" (Spec. Plant. iv. 1931.).

It has got, in India, the English name of the *great banyan tree*, and is the *arbor de rayz* of the Portuguese, that is to say, the *rooting tree*, from the circumstance that it propagates itself by letting a kind of gummy string fall from its branches, which takes root, grows large, and by this means the branches are often spread to a vast circuit, affording a most delightful shade in a hot climate. This tree is noticed both by Strabo and Pliny*; and is almost as much venerated by the Hindoos as the *ficus religiosa* itself. It is called in Cyngalese *kiri-pælla*, in Hindoostanie *but* بت; the Mahratta appellation

* L. 12. c. 5.

for it is *bergot;* the Arabs term it *thaab* تعب; it is common in China, and is there termed *yang-tchoo;* and in Cochin-China *cay sanh;* it is the *tsiela* of the Hort. Malab. (iii. t. 63.) "The *leaves*, which are acuminate, with a blunt point, are obscurely waved and marked with parallel nerves; the *fruit* is about the size of a large hazel nut, round, and, when ripe, of a pale-red colour, containing many seeds; these *seeds* are prescribed, by the Tamool practitioners, in the form of electuary, as a cooling and tonic remedy, in the quantity of about one pagoda weight twice daily. The white glutinous juice which exudes from the tender stalks when pricked or bruised, is applied to the teeth and gums to ease the tooth-ache; it is also considered as a valuable application to the soles of the feet when cracked and inflamed; with it, and a similar juice obtained from the *arásum márúm* (ficus religiosa), the natives prepare a kind of bird-lime. The bark of the *ficus Indica*, given in infusion, is supposed to be a powerful tonic, and is administered in *neer alivoo* (diabetes). The Sanscrit name *vatta* has also been bestowed on another species of banyan* tree, the *ficus Bengalensis* (Lin.), and which the Tamools call *kull-eichee márám;* it is the *ficus vasta* of *Forskāl*, the *peralu* of Rheede.† In Malayalie it is *ittiālu*, and in Dukhanie *ber*.

* For a classical and very interesting account of the banyan tree, by Dr. Noehden, see Transactions of the Royal Asiatic Society of Great Britain and Ireland, vol. i. part i. p. 119.

† Roxburgh, in his excellent Commentary on the Hortus Malabaricus, contained in the xiii. vol. and part ii. of the Transactions of the Linnæan Society, says, that peralu ought to get the name of ficus Indica, as in the Hort. Beng.

XI.

ALIVERIE* ஆலிவரை (Tam.) *Haleem* هليم (Duk.) *Hŭrŭff* هرّف (Arab.) *Adalavittiloo* (Tel.) *China wall-cress.* *Rohitā sárushāpa* (Sans.). ARABIS CHINENSIS (Rottler).

Cl. and Ord. Tetradynamia Siliquosa. Nat. Ord. Siliquosæ.

Alivérie is the name of a small reddish coloured, and not unpleasant tasted seed, which is common in every bazar in Lower India, and which is said to be brought from China. I have repeatedly sown it, but it never came up. Dr. Rottler, however, informed me, that it was a new species of *Arabis*, to which he had given the name of *Chinensis.* The *Hakeems* are in the habit of prescribing it as a stomachic and gentle stimulant; but doubt whether it does not sometimes, if imprudently given, bring on abortion. The *Vytians* consider it, when bruised and mixed with lime juice, as a valuable repellent in cases of local inflammation. Of the essential character, Willdenow says, "*Glandulæ* nectariferæ 4, singulæ intra calycis foliola, squamæ instar reflexæ" (Spec. Plant. iii. 1243.). May it not be this species of cress which Morier speaks of as common in Persia, and there called ispedān اسپدان? See his Second Journey to Persia, p. 108.

* Sometimes called *saliverie.*

XII.

ALPAM (Maleālei).

This I have given a place here on the authority of *Bartolomeo*, who, in his "Voyage to the East Indies" (p. 416.), informs us, that it is the name of a shrub which grows on the Malabar coast, and which he can, with certainty, call an "antidote to poison;" the root, he says, is pounded and administered in warm water. What it is, I had not ascertained on leaving India; but, so recommended, it will, I trust, ere long be brought under scientific investigation. In all probability the appellation has been incorrectly printed.

XIII.

AMAUM PATCHEH ARISEE (Tam.) *Pill-bearing spurge.*

EUPHORBIA PILULIFERA (Lin.)

Cl. and Ord. Dodecandria Trigynia. Nat. Ord. Tricoccæ. *Pillen-tragende Wolfsmilch* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "*Cor.* 4; s. 5-petala, calyci insidens; *cal.* 1-phyllus, ventricosus; *caps.* 3-cocca" (Spec. Plant. ii. 959.).

This species of spurge does not grow more than a foot high, with "a tender, simple, round *stem*, covered with reddish brown hairs; the *leaves* are opposite, bluntly, and scarcely serrate; *pedùncles* an inch

long, coming out alternately from the axils, bear two heads of flowers, small, and lilac-coloured (see Burm. Zeyl. 224. t. 105. f. 1.).

The native practitioners consider the juice of the fresh plant as a useful external application in apthous affections.

By Moon's account, the Cyngalese call the plant *sudoo-boo-dada-kiriya ;* eight species are growing in Ceylon (Cat. Ceylon Plants, p. 38.).

XIV.

AMKOOLANG-KALUNG அமுக்கலாங் கிழங்கு (Tam.) *Asgund* اسگند (Duk. and Hind.) *Béhmun* بهمن (Arab.) *Pénérroogudda* (Tel.) *Root of the flexuose branched winter cherry. Ushúva ghéndi* (Sans.) also *Wajie ganāhá* (Sans.)

PHYSALIS FLEXUOSA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Luridæ. *Biegsame Schlute* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, " *Cor.* rotata ; *stam.* conniventia ; *bacca* intra calycem inflatum bilocularis" (Spec. Pl. i. 382.).

" The plant, which is *ushwa-gundha* in Bengalese, and *amukkara* in Cyngalese, rises to the height commonly of four or five feet; the *stem* is shrubby; branches flexuose; *leaves* oblong, ovate, and often opposite; the *flowers* are scattered at the axils of the leaves ; the *calyxes* grow out and involve the berry, which is usually about the size of a pea; it is not eaten, and, when ripe, is of a purplish colour, having ten cells, each including one seed."

The root, as found in the medicine bazars, is of a

pale colour, and, in external appearance, not unlike our gentian; but it has little sensible taste or smell, though the Tamool *Vytians* suppose it to have deobstruent and diuretic qualities, given in decoction to the quantity of about half a tea-cupful twice daily; the Tellingoo physicians consider it as alexipharmic (see Flora Indica, vol. ii. p. 241.). The leaves, moistened with a little warm castor-oil, are a useful external application in cases of carbuncle. The plant is the *pevetti* of the Hort. Malab. (iv. p. 113. t. 55.)*; and may be seen growing in the botanical garden of Calcutta.† See Hort. Bengalensis, p. 16.

XV.

ANANERINGIE ஆனைநெருஞ்சி (Tam.) *Burray gokéroo* بڑا گھو کرو (Duk. and Hind.) *Khussuké kubeer* (Arab.) *Yeanugapulléroo* (Tel.) *Ætnerenchi* (Cyng.) *Prickly-fruited pedalium. Ghéjasoodumoostra* (Sans.)

PEDALIUM MUREX (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Luridæ. *Ostindische Fussangel* (Nom. Triv. Willd.).

This low growing plant (which is the *caca-mullu* of the Hort. Mal., x. p. 143. t. 72.) "has a simple

* There is another plant of the same genus, *physalis minima*, which, according to Dr. Heyne, the Hindoos consider as medicinal, but he says nothing of its supposed virtues; its Sanscrit name is *latchmie divétaya;* its Tellingoo appellation *kupanti*.

† Five species of physalis grow in the botanical garden of Calcutta, two of which are natives of India, one of Peru, one of Persia, and one of Malacca.

stem, with *leaves* obovate, blunt, toothed, truncated, naked, with the *petioles* glandular on each side; the *flowers* are axillary, solitary, and small, and of a beautiful straw colour." The whole plant, when in full flower, as has been noticed by *Rottboell**, has a smell of musk; it is the only species of its genus. Of the essential character, Willdenow says, "*Cal.* 5-partitus; *cor.* subringens. limbo 5-fido; *nux* suberosa, tetragona, angulis spinosa, 2-locularis; *sem.* bina" (Spec. Plant. iii. 1214.).

The fresh leaf of this plant when agitated in water renders it mucilaginous, in which state it is prescribed by the *Vytians* in dysuria and gonorrhœa. The seeds, which are contained in the prickly capsule, possess similar virtues, and are administered in decoction, in the quantity of about one tea-cupful twice daily. Rheede, in speaking of the plant, has these words: "Foliorum succus uti et aqua viscosa calorem in renebus præternaturalem temperat, urinæ ardorem restringit, stranguriam amovet, calculam frangit" (vide Hort. Mal. x. p. 143. t. 72.). It would seem to be a valuable medicine in all such cases as require mucilaginous mixtures. The plant is the *æt-nerenchi* of the Cyngalese.

Our article grows in the botanical garden of Calcutta, introduced by Dr. A. Berry, in 1811. See Hortus Bengalensis, p. 47.

* Vide Rottboell Collect. Societ. Med. Havn. ii. p. 256. R.

XVI.

ANA-SHOVADI ஆனைசோபதி (Malealey). *Shām-dulun* (Bengalese). *Prickly-leaved Elephant's Foot.*

ELEPHANTOPUS SCABER (Lin.).

Cl. and Ord. Syngenesia Segregata. Nat. Ord. Compositæ Capitatæ. *Rauher Elephantenfuss* (Nom. Triv. Willd.)

Of the essential character, Willdenow says, "*Calyculus* 4-florus; *corollulæ* lingulatae, hermaphroditæ; *recept.* nudum; *pappus* setaceus" (Spec. Plant. iii. 1571.).

I have given this species of elephant's foot a place here on the authority of *Rheede*, who tells us, that a decoction of the root and leaves is given, on the Malabar coast, in cases of dysuria; he says, the Brahmins there call it *astipata*, "quia folia in orbem se explicant," which, indeed, they appear to do by the engraving given to us in the Hort. Mal. x. p. 13. t. 7. It is the *ætadiya* of the Cyngalese. I have never seen the plant, of which different descriptions seem to have been given by Dillenius, Browne, Vaillant, &c. It would appear, that from a perennial root many oblong rough leaves are sent forth, which spread near the ground; between these, in the spring, arises a branching stalk, little more than a foot high; the side branches are short, and generally terminated by two heads of flowers, each on a short peduncle; the florets are of a pale purple colour

(Miller). *Sloane* and Browne*, in speaking of this plant, say, it is accounted a good vulnerary, and grows in the woods of Jamaica very plentifully; he adds, that the leaves are frequently employed instead of *carduus benedictus*, amongst the inhabitants of the French West India Islands, of which country the species *scaber* would seem to be a native, as well as of India, though Dillenius doubts whether the East and West India plants may not be different species.

The *elephantopus scaber* grows in the botanical garden of Calcutta, introduced, it would appear, by Dr. W. Carey. See Hortus Bengalensis, p. 62. It also grows in Ceylon. See Moon's Catalogue of Ceylon Plants, p. 59.

XVII.

ANASEE-POO ஆனைநெருஞ்சி (Tam.) *Anáspool* اناس پهل (Duk.) *Badiāné huttāie* (Arab.) *Skimmi* (Japan.) also *Somo* (Jap.) *Pa-co-hu-huei-hiam* (Chin.) *Yellow-flowered Aniseed*, or *Star Anise*.

ILLICIUM ANISATUM (Lin.).

Cl. and Ord. Polyandria Polygynia. Nat. Ord. Coadunatæ. *Aechter Sternanis* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "*Cal.* 6-phyllus; petala 27; *caps.* plures in orbem digestæ, bivalves; 1-spermæ" (Spec. Plant. ii. 1072.).

The *illicium anisatum* is not a native of India, but

* Browne (Patrick), M.D., has written an interesting work, though now of old date, a Civil and Natural History of Jamaica, 1756, fol. See Lunan's Flora Jamaicensis, vol. i. p. 281.

of China and Japan, and has been described by Thunberg*, Loureiro†, and Gærtner.‡ The first tells us, that it has an arboreous stem of a fathom or more in height; trichotomous branches, which are wrinkled and angular from spreading upwards, with aggregate leaves, in threes or fours, elliptic, quite entire, evergreen, and paler underneath; yellow flowers, axillary, peduncled, and solitary. The second, that it has eight or more germs; and Gærtner, that it has capsules six or eight, ovate-lanceolate, compressed a little, horizontal, of a substance like cork, rugged without and even within, and having a strong smell of anise when rubbed; seed, elliptic, lens-shaped, smooth and glossy, and cinnamon coloured.

Bauhin, in his "*Historia Plantarum Universalis*," in speaking of this plant, calls it "*zingi fructus stellatus*," and, perhaps, no name could be better applied. The capsules, as they appear in the Indian bazars, exactly resemble stars in shape, with six or eight points, of a pale-brown colour, leather-like substance, about the size of a sixpence, and nearly a quarter of an inch thick; they, as well as the seeds they contain, have a very strong smell of anise; but would appear to be hitherto very little known to Europeans in India. The *Vytians* consider them as powerfully stomachic and carminative, and prescribe them accordingly. The Mahometans season some

* In his *Flora Japonica*.

† Loureiro gives nearly the same description of the plant; it grows, by his account, in the neighbourhood of Canton, and is much prized by the Chinese, as a carminative and stomachic, proving also beneficial in rheumatism, colic, and cough; they besides use it as a condiment for their food. Vide Flor. Cochin-Chin. vol. i. p. 353.

‡ In his work "*De Plantarum Fructibus et Seminibus*."

of their dishes with the capsules, and occasionally prepare with them a very fragrant volatile oil. Thunberg tells us, that in Japan they prepare liqueurs with them, and place bundles and garlands of the aniseed tree in their temples before their idols, and on the tombs of their friends; he also seems to doubt whether this, and another species, *floridanum*, be distinct, or only varieties.

XVIII.

ANDJANG-ANDJANG (Javanese). *Eleeocarpus redjosso* (Horsfield).

Cl. and Ord. Polyandria Monogynia.

The fruit of this tree is employed as a diuretic by the Javanese: the bark is a strong bitter.

XIX.

ANDONG (Javanese). *Wædi-kok-gaha* (Cyng.) *Terminating Dracæna. Granzen Drachenbaum* (Nom. Triv. Willd.).

Dracæna Terminalis (Lin.).

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Sarmentaceæ.

We are told by Dr. Horsfield, in his "Account of the Medicinal Plants of Java," that the Javanese consider the root of this shrub as a valuable medicine in dysenteric affections.

Willdenow says, "habitat in India," and Forster* informs us, that it is a native of the Society Isles; and we know it to be a native of the Moluccas and Ceylon. I perceive, by the Hortus Bengalensis (p. 24.), that in 1814 it was growing in the botanic garden at Calcutta, there introduced from the Moluccas, by C. Smith, Esq., in 1798. It would seem that "the *leaves* are lanceolate, almost like those of *canna; raceme* terminating, composed of a few branched racemes; pedicles alternate, solitary, shorter than the flower, surrounded at the base by an obtuse glume." It is the *terminalis* of Rumphius (Amb. 4. t. 34.). Of the essential character, Willdenow says, "*Cor.* 6-partita, erecta; *filam.* medio subcrassiora; *bacca* 3-locularis, 1-sperma" (Spec. Plant. Willd. ii. 647.).†

XX.

APPAKOVAY KALUNG வடமடகோவை வெங்காயம் (Tam.) *Root of the Beaked Bryony.*

BRYONIA ROSTRATA (Rottler).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ. *Geschnabelte Zaunrube* (Nom. Triv. Willd.

This root, as it appears in the medicine bazars, is

* In his work "De Plantis Esculentis Insularum Oceani Australis Commentatio."

† Seven species of dracæna grow in the botanical garden of Calcutta, three of which are natives of India. The species *ferrea* is the *bijoolee-chutuk* of the Bengalese, and the *tatsio* of the Chinese, who consider it as a beautiful garden plant, owing to its fine purple flowers.

about the size of a finger, and of a light-grey colour; it has no particular smell, but a slightly sweetish and mucilaginous taste; it is prescribed, internally, in electuary, in cases of piles; in powder, it is sometimes ordered as a demulcent in humoral asthma: dose of the electuary, two tea-spoonfuls thrice daily.

This annual plant was first scientifically described by my much respected friend, Dr. Rottler, of Madras, who found it growing in the vicinity of Tranquebar; in his communication to Willdenow respecting it, he says, "Foliis cordatis obtusis denticulatis, baccis angulatis acuminatis." Of the essential character, Willdenow observes:

"Masculi. *Cal.* 5-dentatus; *cor.* 5-partita; *filam.* 3.

"Feminei. *Cal.* 5-dentatus; *cor.* 5-partita; *stylus* 3-fidus; *bacca* subglobosa; polysperma" (Spec. Plant. iv. 1742.).

Dr. Horsfield, in his Account of "*Medicinal Plants of Java,*" informs us, that another species, *cordifolia*, and which the Javanese call *papassam*, is prized on that island, from its root being considered as cooling, and to possess virtues in complaints requiring expectorants; it is also a native of Ceylon (Flor. Zeylonica, 354.). The leaves of the *appakō-vay* (Tam.) are eaten as greens in Southern India.

Four species grow in the botanical garden of Calcutta, two* of which are natives of India.

* These are the *agumukee* (Hind.), *bryonia scabrella*, and the *gheedi maraloo* (Tel.), which is the *bryonia garcini*, a Ceylon plant.

XXI.

ARALIVAYR அரளிவேர் (Tam.) or *Álárièvayr* (Tam.) *Kaneerkéjúr* كنيركيجر (Duk.) *Ghénnéru vayroo* (Tel.) *Kanér* (Hindooie). *Kárrávirā*, also *Pratihasa*, also *Chandata* (Sans.) *Root of the Sweet-scented Oleander.*

Nerium Odorum (Ait.) (Hort. Kew. i. p. 297.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ. *Wohlriechender Oleander* (Nom. Triv. Willd.).

The bark of the root, and the sweet-smelling leaves of this beautiful shrub*, are considered, by the *Vytians*, as powerful repellents, applied externally. The root itself, taken internally, acts as a poison, and is but too often resorted to for the purpose of self-destruction, by the Hindoo women, when tormented with jealousy. Of the essential character, Willdenow says, "Contorta. *folliculi* 2, erecti; *sem.* plumosa; *cor.* tubus terminatus, corona lacera" (Spec. Plant. i. 481.).

It rises to the height of about six or seven feet; the leaves are rigid, and about three or four inches long, and little more than a quarter of an inch broad; the leaves are produced in loose bunches at the end

* Roques, in his Phytographie Medicale, vol. i. p. 273, informs us, that the plant was known to Dioscorides, Galen, and Apuleius, and believes it to have been the rhododendron of Pliny; he might have added, that writer imagined that while the leaves were a poison to all four-footed animals, they were a preservative and counter poison against serpents. See Natural History, book xxiv. chapter xi.

of the branches, and have a most delightful smell. Of this species, Willdenow observes, "Foliis lineari, lanceolatis ternis subtus costatis, laciniis calycinis erectis, nectariis multipartitis, laciniis filiformibus." It has been often confounded with the *nerium oleander** (Lin.); of that, however, Willdenow says, "Nectariis *planis* tricuspidatis," and which may sufficiently distinguish them.

There are several varieties of the nerium odorum in India and in Ceylon, according as they may be white, red, crimson, double, or single. In the botanical garden at Calcutta there are the following: The *single red*, which in *Hind.* and *Beng.* is called *lal-kurubee;* it is a native of Syria. The *double red*, which is in the same languages termed *pudma kurubee*. The single white (*shwet kurubee*). The double white; and the single crimson. Barrow found the plant common in China (Travels, p. 505.); and we are told, by Sir W. Jones, that, from the poisonous quality of the root, it has got from the Hindoos of Upper India the singular epithet of *haymaraca*, or hare-killer. Rheede (Mal. 9. t. 1, 2.) has given us some account of this plant, *tsjovanna*. It is common in the Southern parts of Spain; and may be found in *Avicenna*, under the name of دفلي (p. 158.).†

* The *kjotjeksto* of the Japanese, the *cay-dao-le* of the Cochin-Chinese, and the *belutta aureli* (Rheed).

† Twelve species of nerium are cultivated in the botanical garden of Calcutta. The species *oleander*, which is a native of the Levant, has leaves, Mr. Gray informs us, which, when infused in oil, are a good application for the itch; the wood, he says, is used to clear muddy water. See his Supplement to the Pharmacopœias, p. 65. I find the modern Greeks call this species Ἀφυλλοθο. Forskahl Flor. Constantin.

XXII.

ARASUM VEREI அரசமரவேர (Tam.) *Anipeepul kébeenge* بينچ کي پيپل اني (Duk.) *Raghivittiloo* (Tel.) *Peepul* (Mahr.) *Pippul* (Hind.) *Pipala* (Sans.) *Seed of the Poplar-leaved Fig-tree.* FICUS RELIGIOSA (Lin.)

Cl. and Ord. Polygamia Diœcia. Nat. Ord. Scabridæ. *Heilige Feige* (Nom. Triv. Willd.).

The small, smooth, whitish, and globular seeds of this large, beautiful, and sacred tree are supposed, by the *Vytians*, to possess cooling and alterative qualities, and are prescribed in electuary and in powder; of the latter, to the quantity of a quarter of a pagoda weight twice daily. The essential character of *ficus* has already been given. Of the species in question it may be observed, that the leaves are smooth, ovate, cuspidate, of a light-green colour, about five inches long, and three broad at the base, diminishing gradually to a narrow point, which is in itself an inch and a half long; the fruit is small, round, and, when ripe, of a darkish hue; it comes out on the branches. The tree is the *areālu* * of the *Hort. Malab.* (3. p. 47. t. 27.), and the *arbor conciliorum* of Rumphius (Amb. iii. p. 142. tab. 91, 92.).

On pricking the stem of the *ficus religiosa* a white glutinous juice is poured out, with which the natives

* Dr. F. Hamilton, in his Commentary on the Hortus Malabaricus, informs us that the *areālu* is the *bodhibæn* of the Avanese.

prepare a kind of bird-lime, which is termed in Dukhanie *shélim.* The Cyngalese call this noble tree *bogaha,* and the Malays *caju bodi ;* it is the *cay-bo-de* of the Cochin-Chinese; and does not rarely get, from the Brahmins of Upper Hindoostan, the expressive appellation of *chaladala,* from the circumstance of the almost constant trembling of its beautiful leaves, which is occasioned by the great length and delicacy of the foot-stalks; it is sacred to *Veeshnu.* I shall conclude what I have to say of this article, by stating what Bartolomeo, in his Voyage to the East Indies*, tells us respecting the dried fruit: "Pulverised, and taken in water for fourteen days together, it removes asthma, and promotes fruitfulness in women!!"

The species *septica,* the *cay-lauc-cho* of the Cochin-Chinese, and the *awar-awar* of the Javanese, is a medicinal plant of Java; its leaves are emetic, as noticed by Rumphius and Horsfield. The plant grows in Otaheite, there called *matté ;* the Cochin-Chinese consider it as caustic and anthelmintic.

XXIII.

ARK or ORK ارک (Arab.) also ردبق also راک (Arab.) also سردب (Arab.)

Cissus Arborea (Forsk.).
Salvadora Persica (Vahl.).

This is a tree mentioned by Forskahl, in his Descriptiones Floræ Egyptiaco-Arabicæ, p. 32, which

* Page 96, English translation.

was, in his days, held in high estimation amongst the Arabian-Egyptians; so much so as to be celebrated by their poets. Of it he says, "In magno est pretio; *fructus*, كباث, maturus edulis; *folia* contusa imponuntur tumoribus *uaram* dictis, et bubonibus; sed vis *antitoxica* adeo famosa, ut carmine quoque celebretur:—

اراق البنان بطلع نبان مدور
يبع ثبان من الرجال الكملي

See article *Ooghai Puttay*, in this Part and Chapter.

XXIV.

ARÚGÁM VAYR அருகம்வேர் (Tam.)
Root of the Linear Bent-grass.
AGROSTIS LINEARIS (Lin.).

Cl. and Ord. Triandria Digynia. Nat. Ord. Gramina. *Linienformiger Windhalm* (Nom. Triv. Willd.).

The roots of this beautiful grass, which the Cyngalese call *heetana*, the Hindoo doctors use in preparing, by decoction, a pleasant-tasted and cooling drink. The grass itself is held in high estimation by the Indians, who have celebrated it in their sacred* writings; it is supposed to be particularly acceptable to *Gānésha* (the Janus of the Romans), to whom it is offered under the Sanscrit name of *doorva* or *doorwal*, by the Brahmins of Lower Hin-

* See Asiatic Researches, vol. iv. p. 248.

doostan. Arúgám grass is considered as the sweetest and most nutritive food for cattle of all descriptions, and is made into hay.* Besides this last, which is its Tamool name, it is called *ghérika* (Tel.); *doorba* (Beng.); *dūb* (Hind.), which, however, Dr. Hunter thinks, is a Sanscrit word; *hăriālie* هريالي (Duk.); *beligaraga* (Rheede); *doorva* also *bhārgūvee* (Sans.). It grows most luxuriantly in moist situations, and differs from its congener, the fiorin grass (agrostis stolonifera), chiefly by the latter having a panicle, while the former has "*spicas* subquaternas digitatas et *culmum* repentem."

Of the essential character of *agrostis*, Willdenow says, "*Cal.* 2-valvis, unifloris, corolla paulo minor; *stigmata* longitudinaliter hispida" (Spec. Plant. i. 131.).

Roxburgh†, who speaks of the plant under consideration by the name of *panicum dactylon* (Lin.), says, it has "*root* creeping; *culms* creeping; *leaves* small and smooth; *spikes* from three to five, terminal, sessile, filiform, expanding; *flowers* alternate, single, disposed in twos on the underside; *calyx* much smaller than the corol; *corol*, the large or exterior valve, boot-shaped, keel slightly ciliate; *stigmas*, villous, purple."‡

* See article Hay in Part III. of this work.

† See Flora Indica, edited by Carey, vol. i. p. 292.

‡ Three species of agrostis were growing in the botanical garden at Calcutta in 1814, two of which are indigenous to India; the *panee doorba* (Beng.), which is the *ag. tenacissima* (Lin.), and the *bena-joni* (Beng.), which is the *ag. diandra* (Lin.). Since that several species have been noticed by Dr. Roxburgh, in the Flora Indica, vol. i. p. 318.

XXV.

ARDEL-ODAGAM, also ADEL-ODAGAM அடலோடாகம (Hort. Mal.) *Ayiyapana* (Cyng.) *Adŭlāsso* (Sans.) *Two-valved Justicia.*

Justicia Bivalvis (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Stinkende Justice* (Nom. Triv. Willd.).

We are told by Rheede (Mal. 9. t. 43.), that, on the Malabar coast, a juice is extracted from the root and leaves of the *adel-odagam*, which is thought to possess great virtues in asthmatic complaints.

Willdenow*, though with a grain of hesitation, grants, that the plant just mentioned is the *justicia bivalvis* (Lin.), agreeing with the *justicia fætida* of Forskahl, and the *folium tinctorium* of Rumphius (Amb. 6. p. 51. t. 22. f. 1.). Roxburgh†, however, thinks differently, and says, that he is of opinion that the *adel-odagam* is altogether distinct.

Vahl, in his *Symbolæ Botanicæ* (i. p. 3.), has these words: "*Justicia bivalvis;* fructiosa, foliis ovato-lanceolatis, pedunculis subtrifidis, pedicellis biflori-bus, bracteis ovatis."

Miller observes, "This is a shrubby plant, with leaves ovate-lanceolate; peduncles axillary, trifid; lateral pedicels two-flowered; bractes ovate, awned, nerved; the flowers covered with two quite entire mucronate veined, three-nerved, unequal unguicular

* Spec. Plant. i. p. 82.

† Flor. Indica, vol. i. p. 125., where may be seen the j. bivalvis (Lin.) described.

bractes; the side ones two-flowered, the middle one one-flowered; both calyxes equal in length, five-parted; segments lanceolate, villose; capsule villose."

Having never seen the plant described by Rheede on the Malabar coast, I have thus done all I can do, leaving the truth to future investigation. The justicia bivalvis of Roxburgh, or rather as noticed by him, is, he tells us, a native of the *Moluccas*. The plant, under the same botanical appellation, as noticed by Willdenow, is, by his account, a native of *Arabia* and India. The essential character of *justicia* has already been given. See Spec. Plant. Willd. i. p. 82. for the species in question.

XXVI.

ATTIE PUTTAY (Tam.) அத்திபட்டை *Gullerké chāwl* گولر کي چهال (Duk.) *Kusheer Jémeez* قشير جمز (Arab.) *Maydiputta* (Tel.) *Bark of the Red-wooded Fig-tree.**

FICUS RACEMOSA (Willd.).

Cl. and Ord. Polygamia Diœcia. Nat. Ord. Scabridæ. *Traubige Feige* (Nom. Triv. Willd.).

The bark of this species of *ficus*, the native practitioners suppose to have particular virtues when prescribed in *hematuria* and *menorrhagia*†, given in electuary and decoction; of the latter, about half a tea-cupful twice daily. It is slightly astringent, and is sometimes used in the form of fine powder; and,

* It also often gets the name of *country fig tree*, in India.

† Given also in such cases with the greatest advantage, in the form of powder, to the quantity of ʒss. daily, and in conjunction with rice flower, *kaurarasee*.

in combination with a little warm *gingilie** *oil*, as an external application in cancerous affections.

The tree is the *atti-alu* of Rheede† (Mal. 1. p. 43. t. 23.); it is the *grossularia domestica* of Rumphius, and has got the Sanscrit name of *odumburra*. The generic character has already been given. Of this species, Miller says, "The leaves are ovate, quite entire, sharp, impressed with whitish dots; stem arboreous." It grows to a pretty large size, and produces fruit (in racemes), which is nearly round, of a reddish colour when ripe, and about the size of a small plum; it is eaten by the common people. The leaves, as I have observed them in India, are about four or five inches long, pointed, and beautifully veined. See Spec. Plant. Willd. iv. p. 1146.

I shall conclude what I have to say of this article, by observing, that from the root of the tree, which in Tamool is called *attie vayr*, there exudes, on its being cut, a fluid, which is caught in earthen pots, and which the *Vytians* consider as a *cúlpám* (Tam.), that is, a powerful tonic, when drank for several days together. This *cúlpám* is termed *attie vayr tannee* (Tam.).

XXVII.

AVARY ஆவாரை (Tam.) *Turwer* تروړ (Duk.) *Tangayree* (Can.) *Tanghédoo* (Tel.) *Rana-wara* (Cyng.) *Mayharie* also *Talopota* (Sans.) *Eared Cassia.*

CASSIA AURICULATA (Lin.).

* Oil obtained from the *sesamum orientale* (Lin.).

† Dr. F. Hamilton, in his Commentary on the Hortus Malabaricus, says he considers this to be properly *f. glomerata*, so differing with Willdenow.

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ. *Geohrte Cassie* (Nom. Triv. Willd.).

The small, flat, pleasant-tasted, heart-shaped seeds of this species of cassia, the *Vytians* reckon amongst their Refrigerants and Attenuants, and prescribe them in electuary, in cases in which the habit is preternaturally heated, or depraved. They also consider the powder of the dry seeds as a valuable external remedy (blown into the eye), in certain stages of ophthalmia; of the electuary the dose is a small tea-spoonful twice daily.* For the use of this plant in the arts, the reader is referred to another part of this work.

Of the essential character, Willdenow says, "*Cal.* 5-phyllus; *petala* 5; *antheræ* supremæ 3-steriles; infimæ 3-rostratæ; *Lomentum*" (Spec. Plant. Willd. ii. 813.).

"Leaflets, twelve pairs, obtuse, mucronate, several subulate glands, stipules kidney-formed, bearded. The leaflets are oval-oblong, smooth petioled, nearly equal. The flowers of this shrub are of a beautiful orange colour, three, four, or five on a corymb." The shrub itself is one of the most common in Lower India, generally found growing on dry, waste, but not poor land.

The cassia auriculata, with many other species, grow in the botanical garden of Calcutta. (See Hortus Bengalensis, p. 31.)

* I have been informed by my friend Dr. Sherwood, that the native doctors are in the habit of prescribing this medicine with the article immediately preceding, in diabetic cases.

XXVIII.

AVERIE அவரி (Tam.) *Neeliè* (Tel.) *Vísháso dānie* (Sans.) *Indigo plant.*

INDIGOFERA ANIL (Lin.).

Spec. Plant. Willd. iii., p. 1236.

In addition to what is said of this plant, under the head of Indigo, in other parts of this work, I shall here mention, that the root of it is reckoned amongst those medicines, which have the power of counteracting poisons; and hence its Sanscrit appellation; the leaf is considered to have virtues of an alterative nature, and is prescribed in *pukka-soolay* (Hepatitis), but I very much suspect its efficacy. The root is ordered in decoction, to the quantity of about a teacupful twice daily.

The plant in question has much the habit and appearance of the *Indigofera* tinctoria.* Though it has got the name of *wild indigo plant*, it is that from which most of the oriental Indigo is made; of it Miller says, "it grows to the height of five or six feet; and being large, it will afford a greater quantity of indigo from the same compass of ground than any of the other species." It is common at the Pilippine Islands and in Persia, especially in the province of *Kuzistan*, and in the neighbourhood of *Dezphoul*, also in Mekran.† Barrow‡ tells us, that

* Which is the *ameri* of Rheede (Mal. 1. t. 54.), and the *nil-awari* of the Cyngalese.

† See Macdonald Kinneir's Geographical Memoir of Persia, pp. 38 and 225.

‡ See his Southern Africa, p. 17.

two kinds of the Indigo plant grow wild at the Cape of Good Hope; and we have Niebhur's * authority for saying that it is cultivated in abundance all over Arabia, and that when the crop fails they find an excellent substitute in a species of *polygala*. In some of the mountainous tracts of Lower India, the natives procure a kind of indigo from the plant called by the Tamools *cāāt-avérie*, which signifies *wild indigo*. Is it the *indigofera argentea* (Lin.), or *silvery-leaved indigo?* I am inclined to think so; it grows to the height of three or four feet, and has a singular looking angular stem; and altogether the shrub has greatly the appearance of that described by *L'Heretier*, "silky and glaucous"; if it be that species, it is, according to professor Louiche Desfontaines, much cultivated at *Tunis* for dyeing, and is what the Arabs call *hab-nil*.

Betwixt the two species most prized in India, the *ind. anil.* and *ind. tinctoria*, (*cham-noh-la* Coch. Chin.), the principal distinction is, that the latter has leaflets obovate, blunt, naked *on both sides*, while the first has leaflets oblong, bluntish, naked above, *hoary underneath*, all equal. The last is the *ameri* of Rheede (Mal. i. 101. t. 54.); and I have reason to believe, is the same which used to be formerly raised in great abundance at Java †, whence indigo was sent to Europe.

Twenty-one species of indigofera were growing in the botanical garden, in 1814; all of Eastern countries, except one from Cuba (see Hortus Bengalensis, p. 57.).

* See Niebhur's Travels in Arabia, vol. ii. p. 346.
† See Sketches Civil and Military of Java, pp. 41, 42.

XXIX.

AWAR-AWAR (Jav.)

FICUS SEPTICA (Forst. Flor. Aust.).

Dr. Horsfield mentions this plant, as a well known emetic in Java, which confirms Rumphius's account of it; Loureiro has given the same name to a Cochin-Chinese fig; there used for destroying proud flesh; leaves oblong lanceolate, fruit oblong turbinate and wrinkled. See Burm. Ind. 226.

XXX.

AYAPANIE ஆயபானி (Tam.) *Aypanie* (Tel.)

EUPATORIUM AYAPANA (Ventenat).

Cl. and Ord. Synganesia Æqualis. Nat. Ord. Compositæ Discoideæ. *Heilsamer Wasserdoft* (Nom. Triv. Willd.). Spec. Plant. Willd. iii. 1454.

This small shrub, which was originally brought to India from the Isle of France, is as yet but little known to the native practitioners; though, from its pleasant, subaromatic, but peculiar smell, they believe it to possess medicinal qualities. At the Mauritius it is in great repute, and there considered as alterative and antiscorbutic; as an internal remedy it has certainly hitherto much disappointed the expectations of European Physicians. An infusion of

the leaves has an agreeable and somewhat spicy * taste, and is a good diet drink; when fresh and bruised, they are one of the best applications I know for cleaning the face of a foul ulcer.

Of the essential character, Willdenow says, "*Recept.* nudum; *pappus* pilosus vel scaber; *Calyx* imbricatus, oblongus; *Stylus* semibifidus, longus."

It would seem, that the plant has only hitherto been scientifically described by *Ventenat*, who tells us, "Caulis erectus firmus, ramosus fuscus tripedalis crassitie pennæ anserinæ; folia subsessilia lanceolata intigerrima, flores purpurei corymbosi terminalis." The plant is now growing in the botanical garden of Calcutta (with three other species), and was introduced, in 1801, by Captain B. Blake, from Brazil.

The leaves resemble much those of the *cāār noochie* (Tam.), *jatropha curcas* (Lin.), but are not quite so long, being seldom, in the plants I have seen, more than three inches in length, sharp-pointed, and have this to distinguish them; that they are edged with a narrow border of green, somewhat darker than the rest of the leaf. The species Zeylanicum is a native of Ceylon, and there called *wæl-pupula*.

Horsfield, in his acount of the medicinal plants of Java, mentions, that there is common on that island, a species of eupatorium, which the Javenese call *tegunung*, that much resembles the shrub in question; its odour is aromatic, and the natives employ an in-

* I have been informed by Mr. Dyer, already mentioned in this work, that the plant is now chiefly cultivated at the island of Bourbon, for the purpose of being dried and sent to France, where it is used as a substitute for the tea of China. A species of eupatorium (satureiœfolium, Lamarck) is said, by Mutis and Humboldt, to be considered as a powerful counterpoison to the poison of serpents in the United States. See Virey's "Histoire Naturelle des Médicamens," p. 200.

fusion of it in fevers; or may it not be the *eupat. aromaticum*, or *eupat. odoratum* (Lin.)? the first is a native of Virginia, the other of Jamaica. Ventenat found the eupatorium ayapana growing on the banks of the river of the Amazones, and we know it to be a native of Cayenne. *Virey*, in his "Histoire Naturelle des Médicamens," tells us, that another species *perfoliatum* is considered as a febrifuge in America, p. 200.

XXXI.

AYMPADOO or AMPADOO (Sumat.) *Barrowing* (Mal.) *Lussa-radja* (Rumph. Amb. Actuar. 27. t. 15.).

BRUCEA SUMATRANA (Roxb.).

Cl. and Ord. Dicœcia Tetrandria.

I have given this article a place here, on the authority of Roxburgh, who in his Flora Indica*, edited by Dr. Carey, tells us, that it is a native of Sumatra, whence the seeds were some years ago sent to Calcutta, by Mr. Ewer; where plants from them, in four years, grew to the height of four feet, with straight ligneous stems, and few branches. The plant is growing in Ceylon (Moon's Catalogue, p. 68.).

Of the essential character, Willdenow says,

"MASCULI. *Cal.* 4-partit.; *cor.* 4-petala; *nect.* quadrilobum.

"FEMINEI. *Cal. cor.* et *nect.* maris. *pericarp.* 4-monosperma (Spec. Plant. iv., 1776.).

"The *leaves* are scattered, unequally-pinnate, from

* Vol. i. p. 469.

twelve to eighteen inches long; *leaflets* from four to six pair, opposite, short, petioled, obliquely ovate-lanceolate; *petioles* common, round; *stipules* none; *racemes* axillary, solitary, from one to six, or eight inches; *flowers* numerous, dark purple, and very minute." Should the reader wish for a more minute account of the *brucea samatrana*, he may turn to the work just quoted.

Dr. Roxburgh observes, that from the sensible qualities of the plant, which are fœtid, and simply, though intensely bitter, it promises to be as good an antedysentiric medicine, as Bruce's Abyssinian species, (*wooginos;*) the bark, he adds, he intended to compare with the angustura bark, which is supposed by some to be the *brucea antedysenterica* * of Bruce's Travels (vol. v. p. 69.), and described by *L'Heretier*, under the name of *brucea ferruginea*. The reader is referred to Virey's "Histoire Naturelle des Médicamens," p. 324.; for some interesting particulars respecting these plants. See article Fraualot, in this part and chapter.

XXXII.

BABRENG (Hind.).

This is the Hindooie name of a vermifuge seed, common, I have been given to understand, in the

* An alkaline substance has lately been prepared from this species of brucea, called *brucine*; it is about the consistence of wax and narcotic, about six times weaker than strychnine: dose from one to three grains. Daubuisson gave the following in paralysis: ℞ Brucinæ grs. xxxvi., conserv. rosar. q. s.; misce, fiant pilul. xii., one for a dose. Magendie gave this: ℞ Brucinæ grs. vi., alcoholis ʒi.; fiat tinctura; the dose from six drops to thirty, in muscular debility.

higher provinces of Bengal; the Sanscrit name of which is *chitratandoola*. What the plant is, I know not.

XXXIII.

BANGHIE பாங்கு (Tam.) *Bengh* بنگ (Pers.) *Subjah* سبجہ (Duk. and Hind.).

This is an inebriating liquor, which is prepared with the leaves of the *gánjah* plant (*canabis Indica*); it is chiefly drank by the Mahometans and Mahrattas; the Tamools and Telingas of Lower India, who are comparatively sober, use it but little. See articles *Majum* and *Ganjah* in this chapter, and *Subjah*, in another part of this work.

XXXIV.

BELAMCANDA (Tam.) *Shōlarmini* (Hort. Mal.) *China Moræa.*

Moraea Chinensis (Thunb.).

Cl. and Ord. Triandria Monogynia. Nat. Ord. Ensatæ. *Bunte Moræa* (Nom. Triv. Willd.)

We are told by Rheede in the Hort. Malab. (11. p. 73. t. 37.), that the root of this plant, ground and applied to any part bitten by a poisonous snake, is said to prevent fatal consequences. The leaves are given to cattle on the Malabar coast, that have by chance eaten vegetables of a deleterious nature.

Of the essential character, Willdenow says, "*cor.* hexapetala; petala 3. interiora patentia; angustiora; stigma 3-fidum" (Spec. Plant. i. 98.).

There has been some difference of opinion amongst botanists regarding this plant, which, however, may be considered as settled, by Willdenow having placed it where it now stands. Mr. Curtis ventured a notion, that it had scarcely any affinity with *moræa;* Thunberg *, however, observes, that it cannot be referred to the Ixias, as they have a tube; now in this shrub the flower is not in the least tubular, but six petalled. In India, it rises to about four feet high or more, the stalk is thick, smooth, and jointed; the root fleshy, divided into joints of a yellowish colour; leaves nearly a foot long, sword-shaped; flowers beautifully stained with yellow. It is common in the woods of Malabar, is also a native of China and Japan, and is now growing in the botanical garden of Calcutta, and is called in Hindoostanie *dosbichundi.*

XXXV.

BISH or BICK, or KODOYA BIKH.

This, Dr. Francis Hamilton informs us, is the Nepaulese name of a root, which is a poison taken internally, and the juice of it is used for poisoning arrows. Another plant with a tuberous root is called *bishma* and *bickma;* the botanical character of the genus, not differing from the genus *caltha* of Europe; in fact, they are all three of the same genus. *Nir-*

* Who describes it amongst his Japanese plants; the Japanese call it *jakan,* also *karasu oogi.* See Flor. Japon. p. 34.

bishie is another plant of the same genus, but it is not deleterious, and is used in medicine. This must not be confounded with the word *nirbisi*, which is the Sanscrit name of the curcuma zedoaria; it bears no resemblance whatever to the *nirbishie* of the Indian Alps.

XXXVI.

BIT-LABAN بت لابان also *Sochul*, also *Kala-nemek* (Hind.).

This medicine Dr. Fleming * informs us, is of great repute amongst the Hindoos of Upper India. It is prepared by melting together for about six or seven hours, in an earthen pot, an impure muriate of soda, called *samur*, (from a salt lake of that name, near Mirzapore,) and emblic myrobalans (aonlas), in the proportion of fifty-six pounds of the muriate, to twenty ounces of the dried myrobalans.

Bit-laban, which is also sometimes termed *bit-noben*† is generally used as a tonic in dyspepsia and gout, as a deobstruent in obstruction of the spleen, and mysenteric glands; and as a stimulant in chronic rheumatism and palsy: it is also considered as a vermifuge.

It would appear, that Mr. Accum, on analysing 480 grains of this medicine, which had been sent to England, found, that that quantity contained black oxide of iron six grains, sulphur fourteen grains, muriate of lime twelve grains, muriate of soda four hundred and forty-four grains, loss four grains.

* See Catalogue of Indian plants, 53, 54.

† See a dissertation on it by John Henderson of the Bengal Medical Establishment, 8vo. Lond. 1803.

XXXVII.

BONGKO (Jav.).

HERNANDIA SONORA.

Cl. and Ord. Monœcia Triandria. Nat. Ord. Tricoccæ.

This is a lofty tree, with alternate, peltate *leaves*, and pale yellow *flowers*, succeeded by a large swollen hollow fruit, formed of the calyx, having a hole open at the end, and a hard, but oily nut within; the wind blowing in at the opening, makes a noise, hence the specific name sonora. The plant is a native of Java, of the West Indies, Friendly Islands, &c. Horsfield places it amongst the Javanese cathartics. Rumphius says, that the root applied either externally or taken internally, is a certain antidote against poison. See Hortus Jamaicensis, vol. i. p. 389.

XXXVIII.

BONRAKA (Siam).

A root sometimes brought to the Coromandel coast from Siam, of a greyish-brown colour, and very astringent; it is said to be used as a tonic in Siam and Cochin-China, but what the plant is I know not.

XXXIX.

BO-DAYNG (Siam.).

Root used in decoction, in cases of paralysis, found by Dr. Finlayson, in Siam. What it is I know not.

XL.

BRUMADUNDOO பிரமதண்டு (Tam.) also *brumarakāsh* (Tam.) *Fāringie datura* فرنگي داتورا (Duk.) *Shiāl cánta* (Beng.) *Bérband* بهربهانڈ (Hind.) *Dotury* (Can.) *Brumadandie* (Tel.) *Brumadandie* (Sans.) also *Bramhi* (Sans.) *Jamaica Yellow Thistle*, or *Prickly Argemone*.

ARGEMONE MEXICANA (Lin.).

Cl. and Ord. Polyandria Monogynia. Nat. Ord. Rhœadeæ. *Mexicanische Argemone* (Nom. Triv. Willd.) (Syst. Plant. ii. p. 1148.).

The bitter-tasted, yellow juice, of the tender stalks and leaves of this annual thorny plant, (the seed of which, in the West Indies * is used as a substitute for ipecacuan,) is considered by the Indians as a valuable remedy in opthalmia, dropt into the eye, and over the tarsus; and as a good application to chancres. There is an oil prepared from the small dark-coloured seeds, called *brumadundoo unnay*, which the *Hakeems* (Mahometan Doctors) employ,

* See Dr. Wright's Medicinal Plants of the West Indies.

as an external application in such head-achs as are brought on by exposure to the sun's rays. The *Vytians* recommend it, as a liniment for a species of *carpang* which attacks the head, and is called *pódóghoo* (scald head). It is besides purgative and deobstruent; and is also used for the domestic purpose of burning in lamps.

Of the essential character, Willdenow says, "*cor.* 6-petala; *cal.* 3-phyllus; *caps.* semivalvis."

The species in question, which is a native of Mexico, but now grows in Ceylon, rises to the height of two or three feet, having *stems* armed with prickles, and a beautiful yellow *flower*, with six petals; the leaves are jagged, soft, shining; stem clasping; the points of the jags ending in sharp yellowish spines; the flowers are solitary at the end of the stem and branches; the *seeds* are numerous, round, black, with a slightly compressed scar on one side, and have a somewhat pungent, warmish taste.

The whole plant abounds with a milky glutinous juice, which turns in the air to a fine bright yellow, not easily to be distinguished from gamboge; and which, according to *Long's* * account, *may* be of equal efficacy in dropsies, jaundice and cutaneous eruptions. The argemone Mexicana, is a native of Jamaica, the Caribee islands, India, and Mexico, from which last country, the Spaniards sent it to Europe under the name of *figo del inferno*. *Long* further informs us, which, however, agrees but ill with their reputed emetic quality, that the seeds are said to be a much stronger narcotic than opium.

* See his History of Jamaica, vol. iii. p. 845.

XLI.

BUZZIR KHESHOOT بزر كشوت (Arab.).

A seed brought from Syria to Cairo; and chiefly used by the Jews as a cosmetic, but also taken internally. See Forskahl's Mat. Med. kahirina. What it is I know not.

XLII.

CAAT AMUNAK காட்டாமணக்கு (Tam.) *Nepala*, also *Adivie amida* (Tel.) *Mara hárúlú* (Can.) *Rata endaru* (Cyng.) *Bāgberenda* (Hind.) *Dsharrak pagger* (Jav.) *Kanana kerundum*, also *Nepala* (Sans.) *Angular-leaved Physic Nut.*

JATROPHA CURCAS* (Lin.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Tricoccæ. *Schwarze Brechnuss* (Nom. Triv. Willd.).

The essential character is thus given by Willdenow:

"MASCULI. *Cal.* 0; s. 5-phyllus; *cor.* 1-petala, infundibuliformis; *stam.* 10, alterna breviora.

"FEMINEI. *Cal.* 0; *cor.* 5-petala, patens; *styli* 3, bifidi; *caps.* tricolaris; sem. 1." (System. Plant. iv. 1719.)

The seeds of this species of jatropha are called in

* The species janipha, Loureiro says, is considered as a medicinal plant in Cochin-China, where it is called *pefutsu*. The root is supposed to be califacient and resolvent. Vide Flor. Cochin-Chin. vol. ii. p. 585.

Tamool *cāāt amúnaka moottoo ;* they are of a purgative quality, but, like those of the *nervalum* (croton tiglium), somewhat uncertain in their operation, and occasionally excite vomiting. Before using them they ought to be carefully cleared* from the thin filament in which they are closely enveloped, after which two or three may be taken as a dose. They consist, according to Pelletier, of a fixed oil; an acrid principle, which is poisonous; and of an acid, *acide jatrophique.* The leaves, which are five-angled, from three to six inches long, and from three to five wide, are considered as discutient; and the milky juice of the plant is supposed to have a detergent and healing quality, and dyes linen black. The leaves are rubifacient. The capsule or nut is called in Dukhanie *junglie erundiè ké beenge* جنگلي ارندي کي بينج, and in Arabic *dund-birrie* دند نهري ; it is about the size of a large nutmeg: this, when the three seeds within are ripe, dries, and the contents drop out. They are each (the seeds) about the size of an olive, and dark coloured, convex on one side, and on the other obscurely angular; from them a fixed or expressed oil is prepared by the *Vytians*, called in Canarese *mara kărălu unnay*, which is reckoned a valuable external application in cases of itch and herpes; it is also used, a little diluted, in chronic rheumatism†, and for burning in lamps.

* This I particularly mention, as Roques, in his most valuable work, entitled Phytographie Medicale, says, that, according to the testimony of Bancroft, the seeds may be safely eaten, when deprived of their outward *tegument*. See Phyl. Med. vol. ii. p. 288.

† One *Vytian* informed me that he was in the habit of giving the oil internally, in cases requiring purgatives and alteratives, in doses of about one gold fanam and a quarter weight. It would appear, by the Journal of Science, Literature, and the Arts (I think in vol. xxix.), that the varnish used by the Chinese for covering boxes, &c. is made by boiling this oil with oxide of iron.

The plant seldom rises higher than seven or eight feet, and has generally a scraggy appearance; its *flowers* are in terminating cymes; peduncles alternate, upright, many-flowered; flowers almost aggregate, on very short pedicels: males copious; females fewer, sessile (Miller). It is the "noix des Barbades" of the French writers.

It is a common shrub in Lower India, and is frequently seen growing in the hedges round the little gardens of the natives. That species of jatropha called by the English the *coral plant*, or *French physic nut bush* (jatropha* multifida), is cultivated in many gentlemen's pleasure grounds, but merely for the beauty of its red flowers, which come out in large bunches. It appears that from the solitary seed of this species, *multifida*, an expressed oil is obtained, in Brazil, called *emetic* or *pinhoen*† *oil*; it is known to be powerfully both purgative and emetic, and was at one time much used for the latter purpose by the Spaniards of South America: each seed is about the size of a small marble, round on one side and a little flatter on the other. I shall conclude what I have to say of the article *jat. curcas*, by observing, that Orfila‡ places the seeds of it amongst his Poisons; he is of opinion, that the poison is not absorbed, but acts by the inflammation it excites, and sympathetic action on the nervous system.

Mr. Lunan, in his *Hortus Jamaicensis* (vol. ii. p. 62.), tells us, that an ointment prepared with the

* The avellana purgatrix, Bauh. pin. 418.

† See Journal of Science, Literature, and the Arts, No. xxxix. p. 195, and Dr. Copland's excellent Medical Repository for February 1826.

‡ See Traité des Poisons, vol. ii. part i. p. 85.

milk of the physic nut, and half the quantity of melted hog's lard, is an excellent application in cases of inflamed and indurated piles.

XLIII.

CAAT ATTIE POO காட்டாத்திப்பூ (Tam.) *Chanschena-pou* (Malealie). *Usmadughā* (Sans.) *Flower of the Downy Mountain Ebony.*

BAUHINIA TOMENTOSA (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ. *Filzige Bauhinie* (Nom. Triv. Willd.).

The small dried buds and young flowers of this plant, the native practitioners prescribe* in certain dysenteric affections; they have little sensible taste or smell, though the leaves, when fresh and bruised or rubbed, have a strong but not unpleasant odour. Rheede† tells us, that a decoction of the root of the bark of the *chanschena-pou*, which is the name given to the shrub on the Malabar coast, is administered in cases in which the liver is inflamed.

Of the essential character, Willdenow says, "*Cal.* 5-fidus, diciduus; *petala* patula, oblonga, unguiculata; superiore magis distante, omnia calyci inserta" (Spec. Plant. Willd. ii. 810.).

The species in question is a native of Malabar, and the *petan* of the Cyngalese; it grows usually to the height of two fathoms or more, with a trunk about six inches in diameter, and divides into many branches. It is common in Ceylon, and is there

* In the dose of a small tea-cupful of the infusion, twice daily.
† See Hort. Mal. i. p. 63, 64. t. 35.

called *mayla ;* besides its Tamool name already given, it is often called *triviat-putrum.* The leaves, which are much smaller than those of most other of the Bauhinias, are cordate, lobes semiorbiculate, tomentose, and clasp together during the night; the flowers have a greenish calyx, and a bell-shaped yellowish-white corolla.

The present article grows in the botanical garden of Calcutta, introduced by W. Hamilton, Esq. Thirteen other species, all of Eastern countries, were in that garden in 1814.

XLIV.

CAAT KOLINGIE காட்டுகொளிஞ்சி (Tam.) or *Kólúngie* (Tam.) also *Koollu kavaylie* (Tam.) *Vaympalie* (Tel.) *Gampila* (Cyng.) *Poonkhie* (Sans.) *Purple Galega.*

GALEGA PURPUREA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Rothe Geisraute* (Nom. Triv. Willd.).

A decoction of the bitter root of this galega the *Vytians* prescribe in cases of dyspepsia, lientery, and tympanitis; it is a low-growing plant, with an herbaceous and somewhat angular stalk, seldom more than three feet high ; the pinnated leaves have eight or nine pairs of oblong smooth leaflets ; the flowers are small, purple, in a loose spike, and are succeeded by slender, erect legumes, each about an inch and a half in length.

The essential character is thus given by Willdenow: "*Cal.* dentibus subulatis, subæqualibus; *le-*

gumen striis obliquis, seminibus interjectis" (Spec. Plant. iii. 1377.).

The species in question is a native of Ceylon, and also of the Coromandel coast of India.

The leaves and branches of a species of galega (*toxicaria*), Lunan tells us, are employed in the West Indies for intoxicating fish. See his Hortus Jamaicensis, vol. ii. p. 217.

XLV.

CAAT KARNAY KALUNG (Tam.) *Junglai kandi kā gada* جنگلي كندي كا گڈه (Duk.) *Adivie cunda gudda* (Tel.) *Kānana canda* कानन कन्द (Sans.) *Root of the Purple-stalked Dragon.*

DRACONTIUM POLYPHYLLUM (Lin.).

Cl. and Ord. Heptandria Monogynia. Nat. Ord. Piperitæ. *Vielblattrige Zehrwurz* (Nom. Triv. Willd.).

This root, which is large, rugged, and irregular, after having undergone certain preparations to subdue its acrimony, is supposed to possess antispasmodic virtues, and is considered as a valuable remedy in asthmatic affections, given to the quantity of twelve or fifteen grains in the day; it is also one of the many remedies the natives use in *hæmorrhois* (piles). In the dry condition in which we find it in the medicine bazars, it has, though faint, a smell not unlike that of musk.

Thunberg, in his Account of Japan, tells us, that a medicine, called in Javanese *konjakf*, is prepared from the acrid roots of this dracontium, esteemed as

a powerful emmenagogue, and which abandoned women use there to procure an abortion. And I perceive that Forster, in his *Commentatio de Plantis Esculentis Insularum Oceani Australis*, mentions, that at the *Society Islands* this root is eaten as bread* when the bread-fruit is scarce, notwithstanding its great acrimony, but *that* they have, no doubt, the art of subduing.

Of the essential character, Willdenow says, "*Spatha* cymbiformis; *spadix* floribus densetectus; *cal.* 0; *cor.* 5-petala; *bacca* polysperma" (Spec. Plant. ii. p. 288.).

The stalk of the species in question seldom rises more than a foot and a half high, and is of a purplish hue, full of sharp protuberances of different colours, which give it somewhat the appearance of a snake's skin. Miller, in speaking of it, observes, that the scape is very short, petiole rooted, torn; leaflets three-parted divisions, pinnated; the stem is naked to the top, where it has a tuft of leaves; the flower-stalk rises immediately from the root, and is seldom more than three inches high, having a swelling spathe at top, which opens lengthwise, showing the short thick style within, on which the flowers are closely ranged. The plant is a native of Ceylon (Moon's Catalogue, p. 30.), and is there called *kanakidaran*. See also Hort. Mal. ii. t. 18, 19.

* A fact, I see, also noticed by Virey, in his "*Histoire Naturelle des Medicamens*," p. 144.

XLVI.

CAAT MALLICA VAYR காட்டுமல்லிகை வேர் (Tam.) *Walsaman pichcha* (Cyng.) *Adivie mallévayroo* (Tel.) *Kānana-mallikā* कानन मल्लिका also *Vana-malli* वन मल्लि (Sans.) *Root of the Narrow-leaved Jasmine.*

JASMINUM ANGUSTIFOLIUM (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Sepiariæ. *Schmalblattriger Jasmin* (Nom. Triv. Willd.).

This bitter root, ground small, and mixed with powdered *vassumboo* (root of the acorus calamus) and lime juice, is considered as a valuable external application in cases of ring-worm. The Hindoostanie name of the plant is *banmallica*, and a third Sanscrit appellation for it is *āsphota* आस्फोट

Miller places this shrub amongst the *Nyctanthes.* It is the *nyctanthes triflora* of *Burman* (Flor. Ind. iv. t. 2.). In the Hort. Malab. (vi. p. 93. t. 53.) it is described under the name of *katu-pitsjegam-mulla.*

Of the essential character, Willdenow says, "*Cor.* hypocrateriformis; 5-8-fida; *bacca* dicocca; *semina* solitaria arillata" (Spec. Plant. i. p. 35.).

Roxburgh, in his *Flora Indica*, edited by Dr. Carey (p. 95.), informs us, that this species of jasmine is shrubby, twining, polished, with leaves petioled, ovate, smooth, of a shining deep green; flowers terminal, generally three-fold, peduncled, large, white, with a faint tinge of red, star-shaped, having a peculiar, but very pleasant fragrance; he

adds, that it is constantly covered with leaves, which, owing to their beauty and character, are particularly well fitted for screening windows, covering arbours, &c.

Twenty species of jasminum were growing in the botanical garden of Calcutta in 1814, all of which were oriental plants, except one, the *simplicifolium*, introduced in 1799, from the South Sea Isles.

XLVII.

CAAT MORUNGIE VAYR காட்டுமுருங்கை வேர் (Tam.) *Junglaie moonghie ke jurr* جنگلي منگه کي جر (Duk.) *Adivie moonaga vayroo* (Tel.) *Kānana shēkhara* कानन शेखर (Sans.) *Root of the Senna-leaved Hedysarum.*

HEDYSARUM SENNOIDES (Willd.).

This root, as it appears in the bazars, has a considerable degree of warmth; and is prescribed by the *Vytians*, as a tonic and stimulant in fevers, to the quantity of an ounce of the decoction twice or thrice daily. With the bark of the root, ground small, and mixed with the oil of the *sesamum orientale*, is prepared a liniment; recommended as an external application in paralytic complaints and lumbago.

The shrub, which grows on Ceylon, seems only hitherto to have been scientifically described by Willdenow: it is of the Cl. and Ord. Diadelphia Decandria, and Nat. Ord. Papilionaceæ; the trivial name he has given to it is *sennenartiger hahnenkopf.*

The essential character is, "*Cal.* 5-fidus; *cor.*

carina transverse obtusa; *lomentum* articulis, 1-spermis compressis" (Spec. Plant. iii. 1375.).

The hedysarum sennoides has *leaves* pinnated, *leaflets* alternate, smooth, obovate, retuse; *racemes* axillary, *flowers* scanty, and the *loment.* or pericarp, articulated and covered with small spines.

Forty-six species of *hed.* were growing in the botanical garden of Calcutta, in 1814, almost all Oriental plants. Our article is a native of the woods of the Coromandel coast. Two species* of this genus are medicinal in Jamaica, the *supinum* and *tortuosum;* a decoction of the first, according to Piso, is of use in cold, flux cases; the leaves of the last purge. Barham tells us that all sorts of hedysarum are more or less bitter and stomachic. See Lunan's *Hortus Jamaicensis,* vol. i. p. 305.

XLVIII.

CAAT SIRAGUM காட்டுசீரகம் (Tam.) *Kalie zeerie* كالي زيري (Duk.) *Adavie zeela kara* (Tel.) *Buckchie* بكچي (Hind.) *Kānana īraka* कानन जीरक (Sans.) *Purple Fleabane.*

VERNONIA ANTHELMINTICA (Willd.).

Cl. and Ord. Syngenesia Æqualis. Nat. Ord. Compositæ Discoideæ. *Wormbreibende Vernonie* (Nom. Triv. Willd.).

The small, dark-coloured, and extremely bitter, seeds of this annual plant are considered as power-

* The *hedysarum diphyllum* is a native of Ceylon and the Malabar coast; in the first, it is called *maha kakawæna;* on the latter, it is termed *nelam-mari,* and is described by Browne (p. 301.) and Loureiro.

fully anthelmintic, and are also an ingredient of a compound powder prescribed in snake-bites. Rheede tells us that an infusion of them is given on the Malabar coast for coughs, and against flatulency (Hort. Mal. ii. pp. 30—40. t. 24.), and that the shrub is there called *cattu-schiragam;* its Hindoostanie name is *buckchie* بکچی, which, I am inclined to think, is rather a Sanscrit word.

The dose of the seed in powder, when administered in worm-cases, is one pagoda weight twice daily.

The essential character is thus given by Willdenow: "*Recept.* nudum; *cal.* ovatus imbricatus; *pappus* duplex; exterior paleaceus; interior capillaris" (Spec. Plant. iii. 1430.).

The species in question is the *sanni-nayan* of the Cyngalese and the *conyza anthelmintica* of Burman (Ind. 178.); it has an erect stem, roundish, branched, slightly tomentose, and spotted with purple leaves, alternate, serrate, with acute unequal teeth, narrowed at the base into the petiole; common calyx ovate, converging at top; the corolla uniform, and consisting of twenty or more hermaphrodite red florets; the flowers in panicles at the end of the branches, on long peduncles, thickening towards the flower; a solitary peduncle terminates the stalk (Miller).

XLIX.

CADALAY POOLIPOO NEER கடலைபூ நீர் (Tam.) *Būtkāsirka* بوت کاسرکہ (Duk.) *Khulkeasujirnahud-bashid* (Arab.) *Sanigha pooloosu neeloo* (Tel.) *Vinegar of the Sennagalu.*

The dews of the night falling on muslin cloths, spread over the Bengal horse-grain, *cicer arietinum* (Lin.), are thereby rendered slightly acid, and most refreshing to the taste; this liquor wrung out of the clothes is recommended by the native practitioners as a cooling drink, and is used by them as a common menstruum for medical purposes. The acid juice, Dr. Heyne tells us, on having been analysed by Vauquelin, was found to contain oxalic, malic, and a little acetic acid. See his Tracts on India, pp. 28, 29.

L.

CADAPUM VAYR கடம்பமரம் (Tam.) *Kānitee-vayroo* (Tel.) *Neepā* (Sans.) *Long-racemed Eugenia.*

EUGENIA RACEMOSA (Lin.)

Cl. and Ord. Icosandria Monogynia. Nat. Ord. Hesperidæ. *Langtraubiger Jambusenbaum* (Nom. Triv. Willd.).

The root of this beautiful eugenia, as it appears in the medicine bazars, has a slightly bitter, but not unpleasant taste, and is considered by the Hindoo doctors a valuable medicine on account of its aperient, deobstruent, and cooling qualities; it is given in decoction to the quantity of half a tea-cupful twice daily. The seeds and bark are also employed; the latter, which is of a reddish colour, is supposed to possess virtues similar to those of the cinchona officinalis.

Of the essential character, Willdenow says, "*Cal.* 4-partitus, superus; *petala* 4; *bacca* 1-locularis, 1-sperma" (Spec. Plant. ii. 972.).

In the species now under consideration the leaves are crenate, racemes very long, pomes ovate, quadrangular; the peduncles, which are longer than the leaves, are pendulous and simple (See Flor. Zeyl. 191. and Miller).

Jussieu refers this shrub to another genus, *butonica*, on account of its having alternate leaves, and many flowers together in racemes. It is the *samstravadi* of Rheede (Hort. Mal. iv. p. 11. t. 6.), and may be found described by Rumphius (Amb. iii. p. 181. t. 116.), under the name of *butonica sylvestris alba*.

Twenty-eight species of eugenia were growing in the botanical garden of Calcutta, in 1814, almost all of them Oriental plants. See Hortus Bengalensis, p. 37. Seven species grow in Ceylon (See Moon's Catalogue of Ceylon Plants, p. 38.).

LI.

CAMMITTA കമ്മിട്ട (Malealie). *Ouro?* (Sans.)

I have given this article a place here merely from what has been said of its milky juice by Rheede, who tells us, that it is considered by the Hindoo doctors of Malabar to have wonderful virtues in dropsical cases. I have never seen the tree, which, it would seem, is very large, nor am I aware that its exact place in botany has as yet been properly ascertained (See Hort. Mal. v. p. 90.), though I think it must soon come under the notice of the admirable Dr. F. Hamilton, in his Commentary on the Hortus Malabaricus.

LII.

CAMACHIE PILLOO கமாசிபுல்லு (Tam.) also *Wassinapilloo*, also *Cavatum pilloo* (Tam.) *Kamachie kussoo* (Tel.) *Gund beyl* (Hind.) *Gowr geea* (Pers.) *Askhur* اسخر (Arab.) *Seeree* (Jav.) *Gundha-bena* (Beng.) *Ramacciam* (Rheede Mal. 12. p. 137. t. 72.) *Mālā-trinakam* मालातृणकं (Sans.) *Sweet Rush, Lemon Grass*, or *Camel's-hay*.

ANDROPOGON SCHOENANTHUS (Lin.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Gramina. *Wohlriechendes Bartgras* (Nom. Triv. Willd.).

An infusion of the long, striated, scabrous leaves of this sweet-smelling, bitterish, aromatic grass*, they being previously toasted, is given to children who have weak digestion; they are considered by the Vytians as excellent stomachics. The fresh leaves are frequently used as a substitute for tea by the English; and the white succulent centre of the leaf-bearing culms is often put into curries to give them an agreeable flavour.

Dr. Carey informs us, that the natives of the Mo-

* In Dukhanie it is named نارنج كي باسكا كهانس narinj ke bās kā ghāns (orange-scented grass). I conceive *wassanapilloo* to be the proper Tamool name of it; camachie-pillow being, perhaps, more applicable to what is commonly called, by the English, spice-grass, and which I believe to be a variety of the cyperus odoratus (Supp. Spec. Plant. 68.); it is a narrow-stalked, spiky grass, growing to the height of a foot or more, of a warm, aromatic taste, and is given, in infusion, as a stomachic; in Dukhanie it is *kunchanie ka ghas* كنجني كا كهانس.

lucca islands extract a pleasant-tasted essential oil from the leaves; and I perceive that Horsfield, in his list of Javanese medicinal plants, observes, that the Javanese prize this plant much as a mild aromatic and stimulant.

Of the essential character, Willdenow says,

"HERMAPHROD. *cal.* gluma 1-flora; *cor.* gluma vel apice aristata; *stam.* 3; *styli* 2; *sem.* 1." (Spec. Plant. iv. 1863.).

The *sweet-rush*, which formerly had a place in the European Pharmacopœias under the name of Juncus odoratus, is much cultivated in gardens on the Coromandel coast; and in the north of Bengal large tracts of waste land are covered with it. It is the *schænanthum amboinicum* of Rumph. (Amb. v. p. 181. t. 72. f. 2.)

The spike of the panicle of this species is conjugate, ovate-oblong; rachis bubescent, floscules sessile, with a twisted awn; *root*, perennial; *culms*, from five to seven feet high, erect, smooth, and about the thickness of a goose-quill; *leaves*, many near the root bifarious, but few on the upper part of the culm, of a soft texture, pale green colour, and from three to four feet long, including their sheaths, and three-quarters of an inch broad; *floral leaves* small; *panicle* linear; *spikes* generally paired on a common peduncle; *rachis* articulated, much-waved, hairy; *flowers* in pairs, one hermaphrodite and sessile; the other male and pedicelled (See Flora Indica, Roxb., edited by Carey, p. 278.). The plant was formerly an ingredient in the *mithridate* and *theraica*. Virey, in his "Histoire Naturelle des Medicamens" (p. 148.), tells us, that this plant contains a resin similar to myrrh, and that the leaves are attenuant and tonic.

A species of andropogon (insulare) is considered in Jamaica* as a most useful application to ulcers, and called by Browne, sour grass.

LIII.

CANARI كانارى (Mal.) *Rata-kœkuna* (Cyng.) *Java Almond.*

CANARIUM COMMUNE (Lin.).

Cl. and Ord. Dicœcia Pentandria. *Gemeiner Canarienbaum* (Nom. Triv. Willd.).

We are told by Horsfield, in his list of the medicinal plants of Java, that the gum of this shrub has the same virtues as those of the balsamum copaibæ; that the three-cornered nuts are eaten both raw and dressed by the natives of Java, and that an oil is expressed from them, which is used at table when fresh, and for burning when stale: it would also appear that bread is occasionally made from them on the island of Celebes.† Rumphius, who calls it *can. vulgare*, informs us, that when eaten raw, the nuts are apt to bring on diarrhœas; and to occasion an oppression of the breast (Amb. ii. p. 145. t. 47.). See also p. 155. t. 49. and p. 148.

Of the essential character, Willdenow says,

" MASCULI. *Cal.* 2-phyllus; *cor.* 3-petala.

" FEMINEI. *Cal.* 2-phyllus; *cor.* 3-petala; *stigma*

* See Lunan's Hortus Jamaicensis, vol. i. p. 623.

† A fact, I see, noticed by Sprengel, in his Historia Rei Herbariæ, vol. ii. p. 270, who tells us, that the plant is mentioned by Avicenna (212.), under the name of بسباسه. Crawfurd speaks of the tree and tells us, that it is large and handsome, and generally found in places where the sago trees grow. See his Indian Archipelago, vol. i. p. 383.

sessile; *drupa* nuce trigona triloculari" (Spec. Plant. iv. 1787.).

The plant has been described by Rumphius (Amb. ii. t. 47.), Gærtner, and Linnæus; the last-mentioned informs us, that the leaves are alternate, pinnated, with an odd foliole; the common petioles striated; folioles nine, petioled, ovate-oblong, acuminate, even; panicles with divaricate, rigid branches; flowers sessile. Rumphius calls it a tree, but Willdenow has added to his description of it the mark by which he distinguishes shrubs. It is a native of the Molucca Islands, and takes its name from its Malay appellation, *canari*. We are told by Virey, in his "Histoire Naturelle des Medicamens," that this plant furnishes to the people of Amboyna a resin which they burn to give light (p. 289.). The species balsamiferum grows on Ceylon, there called *mala-kækuna*.

LIV.

CANCHORIE VAYR கசகசோரிவேர் (Tam.) *Doolaghóndi vayroo* (Tel.) *Schorigeram* (Rheede, Mal. 2. p. 72. t. 39.) *Doost pārísha* (Sans.) *Root of the Involucrated Tragia.*

Tragia Involucrata (Lin.).

Cl. and Ord. Monœcia Triandria. Nat. Ord. Tricoccæ. *Eingehullte Tragie* (Nom. Triv. Willd.).

This small root has in its dry state, in which only I have seen it in the bazars, no sensible taste nor smell; the Vytians, however, reckon it amongst those medicines which they conceive to possess virtues in

altering and correcting the habit, in cases of *mayghúm* (cachexia), and in old venereal complaints, attended with anomalous symptoms. Rheede, speaking of it, has these words: "Conducit in febre ossium, ac servit pro pruritu corporis;" he further adds, "in decocto data urinam suppressam movet." By the Hindoo doctors of the Coromandel coast it is given to the quantity of half a tea-cupful of the decoction twice daily.

Of the essential character, Willdenow says,

"Masculi. *Cal.* 3-partitus; *cor.* 0.

"Feminei. *Cal.* 5-partitus; *cor.* 0; *styl.* 3-fidus; *caps.* 3-cocca, 3-locularis; *sem.* solitaria" (Spec. Plant. iv. 1646.).

This species of *tragia* is an annual plant, indigenous in India, and rises with an erect stem to the height of about three feet, and rarely sends out any side branches; the leaves are oblong-lanceolate, running out in very long acute points, sharply serrated, alternate, and are closely covered with stinging hairs; female bractes five-leaved, pinnated; the flowers, which I never saw, Miller says, are in small axillary clusters, standing several together upon the same foot-stalk; the upper ones all male, and the under female. *Burman*, in his *Thesaurus Zeylanicus* (202. t. 92.), speaks of it under the name of "*Ricinocarpos Zeylanica hirsuta, foliis lanceolatis serratis.*" Our article grows on Ceylon, there called *wælkahambiliya*. The species *cannabina* and *camolia* are in the botanical garden of Calcutta.

LV.

CARAY CHEDDY கரணாசேடி (Tam.) *Tsjérou kárá* (Mal.) *Bálusoo chettoo* (Tel.) *Nāga valā* नागवला. *Thorny Webera.*

WEBERA TETRANDRA (Willd.).

Cl. and Ord. Pentandria Monogynia. *Vierfadige Webere* (Nom. Triv. Willd.).

A decoction of the edible leaves, as well as root of this plant, is prescribed in certain stages of flux, and the last is supposed to have anthelmintic qualities, though neither have much sensible taste or smell. Of the decoction about three ounces is given twice daily. A variety of the *webera tetrandra* is called in Tamool, *mádoocāré*, the bark of which (Madoocāre puttay), as well as the young shoots (Kólindoo), the Vytians order for dysenteric complaints. The fruit is eaten by the natives, and is noticed in another part of this work; the leaves are also used as food.

Of the essential character, Willdenow says, "Contorta; *bacca* infera, 2-locularis, loculis 1-spermis; *stylus* elevatus; *stigma* clavatum; *cal.* 5-fidus" (Spec. Plant. i. p. 1224.).

The species under consideration is a little scraggy, thorny bush, very frequently met with on the Coromandel coast: it has scarcely any trunk, but innumerable branches; the leaves are roundish, opposite, fascicled, and of different sizes; cymes few, flowered, axillary, peduncled; flowers tetrandous, small and yellow; the fruit is an obcordate drupe, compressed a little, and about the size of a small marble; when ripe, it is of a reddish-brown colour, is fleshy, and

sweet to the taste, double-celled, having two small stones or seeds inside; it is eaten by the natives, and the leaves are put in curries as seasoners.

The shrub is the *canthium parviflorum* of *Lamarck*, and also of *Roxburgh* (Corom. i. p. 39. t. 51.). Rheede notices it under the appellation of *kandenkara* (Mal. v. p. 71. t. 36.).

Three species of webera were growing in the botanical garden of Calcutta, in 1814, all Indian plants; the *scandens*, *corymbosa*, and *odorata*; the Bengalese names of which are *guju-kuta*, *kanura*, and *patagruja*. See Hortus Bengalensis, p. 15. Five species of webera grow in Ceylon, according to Moon.

LVI.

CARUN CHEMBAI கருஞ்சேம்பை (Tam.) *Nulla somuttie* (Tel.) *Krishna rājam* कृष्ण राजं (Sans.) *Painted Coronilla.*

Coronilla Picta (Willd. Var. Flore Purpureo.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Bunte Peltschen* (Nom. Triv. Willd.).

This plant is held in high estimation amongst the Hindoos, as well on account of the great beauty of its purple flowers, as from the virtues its leaves are said to possess in hastening suppuration, when applied in the form of a poultice, that is, simply made warm and moistened with a little castor-oil; the leaves smell like fresh clover, and are food for cattle.

Of the essential character, Willdenow says, "*Cal.* 2-labiatus. $\frac{2}{3}$; dentibus superioribus connatis; *vexillum* vix alis longius; *lomentum* teres articulatum rectum" (Spec. Plant. iii. p. 1145.).

Of this species the *racemes* are many-flowered and hanging; *leaflets* linear, obtuse, the elongated pericarp or *loments* filiform, roundish, and necklace-like; *stem* herbaceous. It is a biennial plant, common in the woods of Coromandel, and is a native also of New Spain. What is called simply *chembé* in Tamool, appears to be the variety described by Willdenow, with *yellow* flowers: "Corolla flava vexillo externe punctis nigris variegato" (System. vol. iii. p. 1148.). The plant is the Æschynomene of Cavan, Ic. iv. p. 7. t. 314.

The species *cor. sanguinea*, we are told, grows in the botanical garden of Calcutta, a plant I cannot find noticed by Willdenow, nor is it given as a new species of Roxburgh. See Hortus Bengalensis, p. 56.

LVII.

CARA CANIRAM కారాకకారణిరాటం (Hort. Mal. 9. p. 110.) *Maha-nelu* (Cyng.)

JUSTICIA BICALYCULATA (Vahl.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ.

Rheede informs us, that the whole of this plant, macerated with an infusion of rice, is said, on the Malabar coast, to be a useful remedy in cases of bites from poisonous snakes.

It seems doubtful whether that described by Rheede be, or be not, the *justicia bicalyculata* of *Vahl:* Willdenow would rather appear to think it is not ("excluso synonymo Rhedii et descriptione caulis"): having never been able to see the *caniram* of

the Malabar coast, I am in no way entitled to give an opinion. The *justicia bicalyculata* is the plant noticed by *Cavanilles*, in his description of Spanish plants (p. 52. t. 71.), under the name of *justicia ligulata*, and is the *dianthera malabarica* of Retz. (Obs. Bot. i. p. 10.) Roxburgh, in his Flora Indica (vol. i. p. 127.), gives us a full account of it: it is an annual, erect shrub, with a six-sided, scabrous stem, of the Cl. and Ord. Diandria Monogynia, and Nat. Ord. Personatæ. Willdenow has given it the trivial appellation of *Malabarische justice;* it is a native equally of Malabar and Arabia Felix, and may be termed in English the *double-calyxed justicia;* "its *leaves* are short-petioled, ovate-cordate, oblong, and pointed; the calyx double; seeds solitary; and the tube of the corolla twisted; the flowers are terminal, axillary, numerous and red." Its Bengalie name is *nasa-bhaga*, its Telingoo, *chebiera*. It is growing in the botanical garden of Calcutta, introduced in 1802. Twenty-two species of justicia grow on Ceylon (Moon's Catalogue, p. 3.).

LVIII.

CARAMBU (Hort. Mal.) *Bhalava anga* (Sans.) *Shrubby Jussieua.*

JUSSIEUA SUFFRUTICOSA (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Calycanthemæ. *Standige Jussieua* (Nom. Triv. Willd.).

Carambu is the Maléalie name of a shrub, common in the woods of Malabar, and which Rheede tells us (Mal. ii. p. 55. t. 49.) when ground small, and steeped

in butter-milk, is supposed to be of use in dysentery; he adds, that a decoction of it is said to dissipate flatulency, promote urine, purge the body, and destroy worms. See also Rheede (Mal. ii. p. 96.).

Of the essential character, Willdenow says, "*Cal.* 4; s. 5-partitus, superus; *petala* 4. s. 5; *caps.* 4. s. 5-locularis, oblongata, angulis dehiscens; *sem.* numerosa, minuta" (Spec. Plant. ii. p. 574.).

The shrub in question is the *hæmarago* of the Cyngalese, and commonly rises to the height of three feet, with a villose stem, and sends out several side branches; the leaves are oblong, alternate, hairy, and scarcely petioled; the flowers, which come out on the side of the stalks singly, on short peduncles, are yellow, four-petalled and eight-stamened. Miller says, that the capsule has a great resemblance to cloves, and that the plant is a native of Campeachy, though Willdenow confines it to India. See Rumphius (Amb. 6. t. 41.).

In the West Indies the juice of the species *repens* is supposed to be a useful remedy in cases of spitting of blood and flux. Lunan, in his *Hortus Jamaicensis* (vol. ii. p. 99.), informs us, that Browne considers all the species of this genus as sub-astringents and vulneraries.

LIX.

CAROO NOCHIE கருநொச்சி (Tam.) *Kali shumbali* كالي شمبالي (Duk.) *Jugut-mudun* (Beng.) *Nulla vavilee* (Tel.) *Vada-kodi* (Rheede Mal. ix. p. 79. t. 42.) *Nila-nirgandi* निलनिर्गन्दी (Sans.) *Gūndhārūsa Justicia.*

Justicia Gendarussa (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Weidenblattrige Justice* (Nom. Triv. Willd.).

The leaves and tender stalks of this beautiful shrub, the specific name of which is a Sanscrit word, have, when rubbed, a strong, but not unpleasant smell; and are, after being toasted, prescribed by the *Vytians*, in cases of chronic rheumatism attended with swellings in the joints; they are given in decoction to the quantity of half a tea-cupful twice daily, which sometimes nauseates. The essential character of the justicias has already been mentioned. This species is diffuse and smooth; the leaves are opposite, lanceolate, elongated, and about four or five inches long; spikes terminating; flowers in whorls; bractes minute; upper lip undivided; lower anthers calcarate; it has scarcely any stem; branches numerous, long, and straggling; the bark of the young parts is generally of a *dark purple*, whence it derives its Tamool name. It is well described by the excellent Dr. Roxburgh, in his Flora Indica (p. 129.), who tells us, that the shrub is indigenous in the Malay islands; and I perceive, by Dr. Horsfield's list of the medicinal plants of Java, that the medical men of that island call it *ganrusa*, and place it amongst their Emetics. I cannot conclude what I have to say of the *car noochie* without observing, that the leaves are commonly scattered by the Indians amongst their clothes, to preserve them from being destroyed by insects.

The species in question is growing in the botanical garden at Calcutta; it grows also on Ceylon, and is there called in Cyngalese *kalu-wæra-niya*.

LX.

CAROOKOOVA ELLEY கருகுபூடுஇலை (Tam.) *Kakoopala* (Tel.) *Vatadalla* (Sans.) *Leaf of the Three-nerved Zizyphus.*

ZIZYPHUS TRINERVIUS (Rottler.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Dumosæ.

The leaves of this species of zizyphus, which are alternate, bifarious, short petioled, and ovate-oblong, have but little sensible taste or smell; a decoction of them is occasionally prescribed to purify the blood, in cases of cachexia, and as an alterative in old venereal affections; given, in decoction, to the quantity of three or four ounces twice daily.

Of the essential character of this genus, Willdenow tells us, that "the calyx is tubular; scales defending the stamens inserted into the calyx. The drupe is a two-seeded nut" (Spec. Plant. i. p. 1102.).

The species in question was first noticed, scientifically*, by my much respected friend, Dr. Rottler †; it is a native of Mysore and the Coromandel coast. The *ziz. jujuba* is peculiar to the Indian continent; though both the *napeca* and *oenoplia* now grow on the Indian continent, they were, I am inclined to think, brought from Ceylon originally. The shrub

* It has been since extremely well described by Dr. Roxburgh, in the second volume of the Flora Indica, p. 234. The excellent Dr. N. Wallich informs us, in the same vol. and page, that this plant is identically the z. trinervia var. glabrata, Roth. (Nov. Spec. 159.); he adds, it must not be confounded with the z. trinervia Poiret (Rhamnus. *Cavan.*).

† Of it he says, *cauli* inermi, nudo; *fol.* cordato, ovalib; *florib.* axillarib; drupa monosperma.

in question may be distinguished from the other species by having three-nerved leaves.

The *zizyphus trinervius* is growing in the botanical garden at Calcutta, introduced from Mysore by Dr. F. Hamilton in 1801; fifteen other species also grow there. See Hort. Bengalensis, p. 17.

LXI.

CARPOORA SELASUTTOO கர்பூரசிலாசத்து (Tam.) *Cārpoorā sillajittoo* (Sans. and Tel.).

These are names given to a beautiful foliated granular gypsum of a reddish grey colour, soft, translucent, and easily broken. The specimens brought me were obtained in the medicine bazar of Trichinopoly; but whether got in any part of India, or imported from Persia, where we know this fossil is common, I know not.

It is used by the natives for the same purposes that it is resorted to by the Africans*, viz. when pounded, it is sprinkled over excoriations and ichorous ulcers, in the way that we employ *prepared calamine stone*. Foliated gypsum, when perfectly pure and white, is what is commonly called alabaster, and which, by *Kirwan's* analysis, contains, in 100 parts, 32 of lime, 30 of sulphuric acid, and 38 of water. The varieties that contain portions of selenite are beautiful, and are named *gypseous opal*, from exhibiting an iridescent appearance when cut across. The most important use of the pure white granular gypsum is in the preparation of *stucco*.

* See Thunberg's Travels, vol. i. p. 167.

LXII.

CAT KORUNDOO UNNAY காட்டுகுருந்து எண்ணை (Tam.) *Oil of the Thorny Trichilia.*

TRICHILIA SPINOSA (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Trihilatæ. *Dornige Trichilie* (Nom. Triv. Willd.).

From the berry of this thorny plant the *Vytians* prepare a warm, pleasant-smelling oil, which they consider as a valuable external remedy in chronic rheumatism and paralytic affections.

The essential character of the genus is, "*Calyx* mostly five-toothed; *pet.* five; *nect.* toothed, cylindrical, bearing the anthers at the top of the teeth; *caps.* three-celled, three-valved; *seeds* berried."

The species in question is a beautiful small tree, or rather large shrub, having simple, ovate, emarginate leaves. It would appear, that Dr. Klein, of Tranquebar, had sent a description of the plant to Willdenow, who tells us, that the fruit is "bacca trilocularis, loculis monospermis, ut ipse observari, et amicus meus Indicus Dr. Klein adnotavit. medium itaque tenet inter Trichliam et Limoniam; rami sunt spinosi" (Spec. Plant. ii. p. 554.).*

The *cat-korundoo* is a native of the Southern tracts of the Indian peninsula.

* The species *moschata*, distinguished by its having a strong smell of musk, is a native of Jamaica, where it grows to the height of twenty feet. See Lunan's Hortus Jamaicensis, vol. i. p. 536.

LXIII.

CATRIGHONDOO کاتري گندو (Duk.).

Catrighondoo is the Dukhanie name of a light-coloured gum resin, found in the druggists' shops of Lower India; it is in small irregular pieces, and has a slightly acid taste. The *Hakeems* consider it as possessing stomachic and tonic properties, and prescribe it in electuary, in conjunction with certain aromatics. It well merits, I am induced to think, further investigation.

LXIV.

CATTU-GASTURI (Mal.) *Kala-kustooree* (Hind.) *Kapu kinaissa* (Cyng.) *Target-leaved Hibiscus*, or *Musk Okro*.

HIBISCUS ABELMOSCHUS (Lin.).

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Bisam Hibiscus* (Nom. Triv. Willd.).

This species of hibiscus is a native, it would appear, of the Society Isles and the West Indies, as well as Ceylon and India; it rises, with an herbaceous stem, to the height of four feet. The flowers come out from the wings of the stalk; they are large and of a sulphur colour, with dark-purple bottoms, and are succeeded by five-cornered capsules filled with large seeds, of so musky an odour that they certainly might be used to scent powders and pomatums, when musk cannot be obtained. In Arabia

they are considered as cordial and stomachic, and are mixed with coffee. Barham, in his Hort. Americanus, speaks of the cordial qualities of the seeds; so does Browne, in his Natural History of Jamaica, in which he calls it musk ockra. But how can we reconcile all this with what Dancer has said of it, in his Medical Assistant, viz. that they are emetic*! The genus hibiscus is very numerous, and several other species will be noticed in other parts of this work.

Of the essential character, Willdenow says, "*Cal.* duplex, exterior polyphyllus; *stigmata 5*; *caps.* 5-locularis, polysperma" (Spec. Plant. vol. iii. p. 806.).

The plant is growing in the botanical garden of Calcutta.

LXV.

CHERIS, or CHERRIS (Nepaul).

Is the name given to a most powerfully narcotic gum resin, obtained from a plant called, in Nepaul, *jeea;* when clarified, it is termed *momea*, from its resemblance to wax. Kirkpatrick says, it would appear to differ from the hemp chiefly in the very strong odour of its leaves, and by its yielding *cherris*, which the hemp does not; he adds, however, that from the grosser parts of the plant *banghie majum* and *subja* can be prepared. See the two first mentioned in this Chapter, and the last in another part of the work.

It is, I think, in all probability, a variety of the

* See Lunan's Hortus Jamaicensis, vol. i. p. 534.

cannabis sativa; and what puts the matter almost beyond a doubt, is the similarity of the Sanscrit names; the one being *jeea*, the other *vijeea*.

LXVI.

CAY-CALAVA (Coch. Chin.).

PANAX FRUTICOSUM (Lin.).

Cl. and Ord. Polygamia Dicœcia. Nat. Ord. Aralliæ (Juss.).

This is an upright shrub, about six feet in height, with leaves bipinnate and an odd one; and flowers red and green, terminating in a diffused panicle. The plant is the stercularia tertia of Rhumphius; its leaves and root, Loureiro says, have diuretic virtues: "Prodestque in hydrope, dysuria, et mictu cruento." Flor. Cochin-Chin. vol. ii. p. 656.

LXVII.

CHEPPOO NERINGIE (Tam.) *Cherra-gaddam* (Tel.) *Bin-awari* (Cyng.) *Trailing Indigo.*

INDIGOFERA ENNEAPHYLLA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Kleiner Indigo* (Nom. Triv. Willd.).

The juice of this low-growing plant, the *Vytians* prescribe, as an antiscorbutic and alterative, in old venereal affections; it is subacid and pleasant tasted.

Of the essential character of the genus, Willdenow says, "*Cal.* patens; *corollæ* carina utrinque

calcari subulato patulo! *Legumen* lineare" (Spec. Plant. iii. p. 1220.).

The species in question was, in the older editions of Linnæus, called *hedysarum prostratum*, from its lying prostrate on the ground. The *leaves* are pinnate, wedge-shaped, in sevens; *stems* depressed to the earth; *spikes* lateral; *calyx* almost five-parted; *corolla* dark-purple, with the back of the standard paler; *legumes* ovate-cylindric, even, equal; *seeds* two (Lin. Mant. i. p. 102.). It is an annual plant, common in waste lands, in the Southern provinces of Hindoostan, and is growing, with many others of the genus, in the botanical garden of Calcutta, introduced by Henry Russel, Esq. (See Hortus Bengalensis, p. 57., also Burm. Ind. t. 55. f. 1.)

LXVIII.

CHEEANK (Siam.)

A root found by Dr. Finlayson in Siam, and considered, by the natives, as diuretic. Quære.

LXIX.

CHIN-AMAM PATCHEY ARISEE (Tam.) also *Sittrapalādi* (Tam.) *Biddārie náná beeum* (Tel.) *Shwet-Kheerooge* (Beng.) *Bin-dada keeriya* (Cyng.) *Rakta vindu chada* रक्तविन्दु छद (Sans.) *Thyme-leaved Spurge.*

EUPHORBIA THYMIFOLIA (Lin.).

Cl. and Ord. Dodecandria Trigynia. Nat. Ord. Tricoccæ. *Thymianblattrige Wolfsmilch* (Nom. Triv. Willd.).

The very small leaves and seeds of this low-growing annual plant, which, in their dried state, are slightly aromatic and a little astringent, are given, by the Tamool doctors, in worm cases, and in certain bowel affections of children; they are commonly administered in the form of powder, and in buttermilk, to the quantity of one pagoda and a quarter weight in the course of the day on an empty stomach. The leaves, when carefully dried, smell something like tea.

Of the essential character of the genus, Willdenow says, "*Cor.* 4; s. 5-petala, calyci insidens; *cal.* 1-phyllus, ventriculosus; *cap.* 3-cocca" (Spec. Plant. ii. p. 881.).

This species is a native of India, and is growing, with many others, in the botanical garden of Calcutta; it has a slender stem, somewhat hairy, and breaking out, *near* the ground, into many very delicate branches; *leaves* at the joints, and divisions of the stem and branches, very small, opposite, oblique, cordate, serrate, oval-oblong; *heads* axillary, glomerate, subsessile; *stem* procumbent (Miller and Flor. Zeyl. 198.).

The plant seems to delight in dry situations, on the skirts of woods, and has altogether much the appearance of thyme. The milky juice of a species of euphorbia (*maculata*) is supposed to have wonderful effects, in the West Indies, in removing spots and films from the eyes, consequent of small-pox. See Barham, p. 82., also Lunan's *Hortus Jamaicensis*, vol. i. p. 286.

LXX.

CITTRAMOOLUM, சித்திரமூலம் also KODIVAYLIE (Tam.) *Chitturmol* چترمول (Duk.) *Chita* چتا (Hind.) *Chitra* (Beng.) *Shiturudge* (Arab.) *Tumba-codiveli* (Hort. Mal. x. p. 15. t. 8.) *Chitraca* * चित्रक (Sans.) *Ceylone Leadwort.*

PLUMBAGO ZEYLANICA (Lin.)

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Plumbagines. (Juss.) *Zeylanische Bleywurz* (Nom. Triv. Willd.).

The native practitioners prepare a kind of paste with the bruised fresh bark of the root of this plant, and rice congie, which they apply to buboes in their incipient state; it acts as a vesicatory, and I perceive its virtues as such are noticed by Sir W. Jones† and Dr. Fleming.‡

Of the essential character of the genus, Willdenow says, "*Cor.* infundibulif.; *stamina* squamis basin corollæ claudentibus inserta; *stigma* 5-fidum; *sem.* 1, oblongum tunicatum."

The cittramoolum (the *elarathnetul* of the Cyngalese§) is a perennial shrubby plant, and is now growing in the botanical garden of Calcutta, introduced before 1794; it seldom rises higher than four feet, shooting up from the strong fibrous root in numerous tender stalks, which are darkish coloured,

* Asiatic Res. iv. 255.
† See Sir W. Jones's works, vol. v. p. 88.
‡ See Fleming's Catalogue of Indian Medicinal Plants, p. 32.
§ See Flor. Zeyl. 73.

and smell not unlike hemlock; the leaves are about three inches long and two broad, terminating in sharp points, alternate, and on short foot-stalks; flowers pure white.* The upper part of the stalk and the calyx of the flower are very glutinous, sticking to the fingers, and entangling small flies that settle on them. The plant, which has another Sanscrit name, *vahni* (and both signify fire), is not very common, and certainly possesses qualities deserving a minute investigation. The *plumbago rosea* (*schetti codiveli*, Rheede), which is noticed in this Chapter, under the Tamool name *Shencodie-vaylie*, possesses virtues somewhat similar to those of the *plum. Zeylonica*. For some account of two other species, viz. the *plum. Europea* and *plum. scandens*, the reader is referred to Virey's "Histoire Naturelle des Medicamens" (p. 170.). The first, he tells us, is employed by the poor to make ulcers on the body to excite pity; the last is the *devil's herb* of St. Domingo, and is remarkably acrid. We are told by *Villars*, in his "Histoire des Plantes de Dauphiné," that the *plumbago Europea*† used formerly to be employed in curing the itch; it was called *dentallaria* by the Romans (toothwort), from its virtues in easing the tooth-ache; like others of its genus, it acts as a blister.

* Flora Indica, vol. ii. p. 38.

† The *plumbago Europea* is mentioned by Duroques as well as by Murray (vol. i. p. 772.) as having been used with considerable advantage in cases of cancer, for which purpose, the ulcers were dressed twice daily with olive oil, in which the leaves had been infused. Now, as the virtues of this plant coincide exactly, according to Dr. Fleming, with those of the *p. rosea* and *p. Zeylonica*, it becomes a question, whether they might not be used in similar afflictions? See article *Shencodie Vaylie* in this Chapter; see also Fleming's Catalogue of Indian Medicinal Plants, p. 32.

The species *scandens* is considered, in Jamaica*, as a valuable vulnerary herb; Browne says, it is of an acrid corrosive nature.

LXXI.

COONDUMUNNIE VAYR குணடுமணி வேர் (Tam.) *Ghoorie-Ghénzā* (Tel.) *Koonch* (Beng.) *Cam-thao-do-hot* (Coch. Chin.) *Goonja* also *Kakā chinchi* काकचिंची (Sans.) *Wild Jamaica Liquorice Root.*

ABRUS PRECATORIUS (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Leguminosæ. *Gemeine Paternostererbse* (Nom. Triv. Willd.).

This root, when dried, coincides so exactly with the liquorice-root of the shops, that it is often sold for it in the bazars in Bengal, where its small seeds are used as weights.† The name given to the beautiful climbing shrub in Java is *saga*, where we are told by Horsfield, in his account of the medicinal plants of that island, that it is considered as demulcent, and the mucilage is usually combined with some bitter. It is the *konni* of Rheede (Mal. iii. p. 71. t. 39.), the *olinda* of the Cyngalese, and the *glycine scandens* of Browne (Jamaic. 297.). The seeds are considered by some as ophthalmic and cephalic, externally applied.

* See Hortus Jamaicensis, vol. ii. p. 235.

† Sir William Jones found, from the average of numerous trials, the weight of one *gunja* (seed) to be a grain and five sixteenths; the *retti* weight (as it is called from the Hindoostanie name of the same seed), used by the jewellers and druggists, is equal to two grains, three sixteenths nearly. See Fleming's Catalogue of Indian Plants, p. 3.

According to Willdenow it is the only species of its genus, the essential characters of which are, "*Cal.* obsolete quadrilobus: superiore latiore; *filamenta* 9, basi infima connata, dorso hiantia; *stigma* obtusum; *semina* sphærica" (Spec. Plant. vol. iii. p. 911.).

"It is a perennial, twining shrub*, with branching stalks, by which it will rise to the height of eight or ten feet; the leaves are pinnated, about three quarters of an inch long, and a third part as broad, blunt, or rather round at the end; the flowers, which are of a pale purple colour, are succeeded by short pods, each containing three or four hard seeds, smooth, and of a glowing scarlet colour." The Persians call them *khakshie*, خاكشي; they are employed as ornaments by the Hindoos, and are noticed in another part of this work. Lunan, in his Hort. Jamaicensis (vol. i. p. 457.) tells us, that the leaves are sometimes used as tea in Jamaica; he adds, that the seeds are of a most deleterious nature, and that Herman is of opinion that three is a mortal dose, but that is in powder, for they may be swallowed whole with safety.

LXXII.

COORUVINGIE VAYR குருவிங்கிவேர் (Tam.) *Pālé ké jurr* پالہ کي جڑ (Duk.) *Root of the Box-leaved Ehretia.*

Ehretia Buxifolia (Roxb.)

* Three varieties of this shrub were growing in the botanical garden of Calcutta in 1814: viz. the one with red seed, *koonch* (Beng.); the one with white seed, *sueta koonch* (Beng.); and a variety with black seed; the last introduced by Dr. Heyne, from Mysore, in 1800. See Hort. Bengalensis, p. 54. Three varieties of the ab. precatorius, by Moon's account, grow in Ceylon. See Moon's Catalogue, p. 52.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Asperifoliæ. *Buchsbaumblattrige Ehretic* (Nom. Triv. Willd.).

This root, in its succulent state, has a sweetish and somewhat warm taste, and is reckoned by the *Vytians* amongst those medicines which assist in altering and purifying the habit in cases of cachexia and venereal affections of long standing: it is commonly prescribed in decoction to the quantity of half a tea-cupful twice daily. The Mahometan practitioners consider it is an antidote to vegetable poisons.

Of the essential character of the genus, Willdenow says, "*Drupa* 2-locularis; *nuces* solitariæ 2-loculares; *stigma* emarginatum" (Spec. Plant. i. p. 1077.).

This shrub, which is the *heen-tambala* of the Cyngalese, has first been accurately described by Roxburgh, in his "Coromandel Plants*," and seems to be closely allied to what Vahl (Symb. ii. p. 42.) describes under the appellation of "*cordia retusa* foliis fasciculatis cuniformibus retusis tridentatis." Roxburgh informs us, that it is a middle-sized ramous shrub, with leaves on the young shoots alternate, on the former branchlets fascicled, sessile, reflected, wedge-formed, scabrous; flowers small, white; calyx five-parted; *corol.* campanulate; stamens five or six; style two-cleft; stigma simple; berry, size of a pea, succulent, red; nut, five or six-celled. The tree is the *bapana boory* of the Telingoos, and is growing with five other species in the botanical garden† of Calcutta.

* Vol. i. p. 42. t. 57. See also Flora Indica, vol. ii. p. 343.
† See Hortus Bengalensis, p. 17.

LXXIII.

COOTIVELLA கூடிவேளாவாரி (Tam.) also *Nilavoolla* (Tam.) *Booien-kăvite* بھین کوبت (Duk.) *Nélāvelágá* (Tel.) *Bhū-kapittham* भूकपित्थं (Sans.). FERONIA ELEPHANTUM (Var.).

Cl. and. Ord. Decandria Monogynia. Nat. Ord. Putamineæ.

The young leaves of this variety of *feronia elephantum* have, when bruised, a most delightful smell, very much resembling anise; they are about three-quarters of an inch long, and round at the end. The native practitioners consider them as stomachic and carminative, and prescribe them in the indigestions and slight bowel affections of children. The leaves of the *vullām márúm* (Tam.), *feronia elephantum* (Roxb.), have the same virtues, being the produce of a variety of the F. E., and which is the tree that yields much of the gum Arabic which is used in Lower India, and which differs not essentially from that obtained from the *acacia Arabica* in Bengal.* It does not appear that the *acacia vera* is a native of Hindoostan. Of the feronia elephantum, the *dewul* of the Cyngalese, Roxburgh† says, it is an erect, pretty large tree; branches few, irregular, forming an ill-looking top; leaves in the young shoots alternate, leaflets opposite; petiole articulated, and somewhat winged; flowers tinged with red, hermaphrodite and male mixed; calyx small; petals five, oblong, spread-

* See Catalogue of Indian Medicinal Plants, p. 4.
† Coromandel Plants, ii. t. 141.

ing, many times longer than the calyx; berry globular; seeds many. The variety of feronia elephantum which Roxburgh describes has got quite different names from our present article; his is the *balong* of the Portuguese, the *yellanga* of the Telingoos, and the *vellangay* of the Tamools. In speaking of its gum, already mentioned under the head of gum Arabic, in another part of this work, he says, that a celebrated painter mentioned to him that it answers better for mixing with colours than gum Arabic.

LXXIV.

COORINJA (or COCRINJA) கொரிஞ்சா (Tam.) *Coorinja* (Tel.) *Untamool* (Hind.) *Kuringyan* (Cyng.) *Automel* اتمول (Hind.) *Vomiting Swallow-wort.*

ASCLEPIAS VOMITORIA (Kœnig.).

Cl. and Ord. Pentandria Digynia. Nat. Ord. Contortæ.

The root of this plant,* as it appears in the Indian bazars, is thick, twisted, of a pale colour, and of a bitterish and somewhat nauseous taste; the Vytians prize it for its expectorant and diaphoretic proper-

* Dr. Sherwood informs me, that the natives distinguish two varieties, a large and a small; and the roots of both are used, externally, against the bites of scorpions and centipedes, being previously pounded, and formed into a paste with a little water. Twenty-five species of asclepias were growing in the botanical garden of Calcutta in 1814, all of Eastern countries, except one from America (*curassavica*), introduced by Mr. White, and one from Pegu (*tingens*), introduced by Dr. F. Hamilton. See Hortus Bengalensis, pp. 20, 21.

ties, and often prescribe it in infusion to the quantity of half a tea-cupful, for the purpose of vomiting children who suffer much from phlegm.

From possessing virtues somewhat similar to those of ipecacuan, it has been found an extremely useful medicine in dysenteric complaints, and has at times been administered with the greatest success by the European practitioners of Lower India. It would appear that this perennial plant is not found in Bengal, but is a native of the northern Circars and of Ceylon: it is, according to Fleming*, the *asclepias asthmatica* of Willdenow, who says of the essential character of the genus, "Contorta; *nect.* 5; ovata, concava, corniculum exserentia" (Spec. Plant. i. p. 1262.).

The species† in question has a shrubby, twisting, villose stem, with leaves opposite, petiolate, cordate-ovate, smooth above, but below covered with short fine white hairs, they are sharp at the end, and, upon the whole, very much resemble laurel leaves; the umbels are shorter than the leaves, often proleferous; flowers small (See Miller). The species *curassavica*, which now grows on Ceylon, is much extolled by Barham (p. 22.) and Lunan: in Jamaica, of which island the plant is a native, the flower of it is called *blood-flower*, from its efficacy in stopping bloody flux

* See Fleming's Catalogue of Indian Plants, p. 8; also some account of it by Mr. Underwood, of Madras, in the Madras Government Gazette for August 22, 1816.

† It would appear to resemble much, in its medical virtues, the *asclepias tuberosa*, the root of which, Dr. Barton says, is mildly cathartic, expectorant, and diaphoretic, and particularly indicated in children's complaints. See Barton's "Vegetable Materia Medica of the United States," vol. i. pp. 243, 244. Moon, in his Catalogue of Ceylon Plants, p. 21, adopts a new genus, *marsdenia*, and makes the spec. vomitoria *mars. vomit.*, or *kuringyan* of the Cyngalese; the spec. *asthmatica* he makes *mar. asthmatica*, or boohangaloo of the Cyngalese.

and other bleedings; a decoction of it is also said to be efficacious in gleets and fluor albus. See Lunan's *Hortus Jamaicensis*, vol. i. p. 64.

LXXV.

CORUTTEI கொட்டல் (Tam.) *Ávágoodá* (Tel.) *Makhal* (Beng. and Hind.) *Palmated Gourd.*

TRICHOSANTHES PALMATA (Roxb.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ.

The fruit of this species of trichosanthes, pounded small, and intimately blended with warm cocoa-nut oil, is considered as a valuable application for cleaning and healing those offensive sores which sometimes take place inside of the ears. The same preparation is supposed to be a useful remedy, poured up the nostrils, in cases of ozœna.

Of the essential character of the genus, Willdenow says,

"MASCULI. *Cal.* 5-dentatus; *cor.* 5-partita, ciliata; *filam.* 3.

"FEMINEI. *Cal.* 5-dentatus; *cor.* 5-partita; *styl.* 3-fidus; *pepo* oblongus" (Spec. Plant. iv. p. 598.).

This species of gourd is evidently the *trichosanthes tuberosa* of Willdenow, distinguished from all others "foliis quinquelobo-palmatis intigerrimus." It is the *trich. corniculata* of Lamarck (Encycl. i. p. 189.). Seven species* of trichosanthes are growing in the botanical garden of Calcutta.

* Four species of trichosanthes, by Moon's account, grow on Ceylon, the anguina, caudata, cucumerina, and incisa; the two

The species *amara* is indigenous in Jamaica; it has a beautiful fringed flower, and bears a fruit somewhat resembling a pear, containing a white pulp, with many long narrow seeds of a dusky ash colour. The plant in the West Indies is used for destroying rats (See Lunan's Hortus Jamaicensis, vol. ii. p. 175.).

LXXVI.

COVALAM கோவலம் (Hort. Mal. iii. p. 37. t. 37.) *Tánghŭlo* (Malay). *Beli* (Cyng.) *Prickly Crateva.*

Cratæva Marmelos (Lin.).

Cl. and Ord. Dodecandria Monogynia. Nat. Ord. Putamineæ. *Dornige Cratæve* (Nom. Triv. Willd.).

Rheede says (Hort. Mal. iii. p. 37, 38. t. 37.) that a decoction of the bark and root of this tree, is supposed, on the Malabar coast, to be a sovereign remedy in hypochondriasis, melancholia, and palpitation of the heart; that the leaves in decoction are used in asthmatic complaints; and that the fruit, a little unripe, is of use in diarrhœa and dysentery.

Of the essential character of the genus cratæva, Willdenow observes, "*Cor.* 4-petala*; *cal.* 4-fidus; *bacca* 1-locularis, polyspermia" (Spec. Plant. ii. p. 852.).

The species in question I have never seen; Miller

last of which are the *scheru-padavalam*, and the *pacta valam* of Rheede, Mal. viii. p. 31. t. 16. and Mal. viii. p. 39. t. 15. See Moon's Catalogue of Ceylon Plants, p. 66.

* Miller, in his Botanical Dictionary, edition by Martyn, says, 3-petalled.

(though he quotes some doubt regarding the genus from Linnæus) says, "that it grows to a great height; that the leaves are serrated; leaflets oblong, entire, and end in acute points, and that between these the branches are armed with long sharp thorns, which come out by pairs and spread asunder; the flowers are produced in small clusters from the side of the branches, green outside, white within, and have a grateful odour; the fruit, the size of an orange, having a hard shell, inclosing a fleshy pulp, which, when ripe, has an agreeable flavour, and, with the addition of a little sugar, is eaten in India." The tree is mentioned thus by *Plukenett*, in his *Almagestum Botanicum*, "Cucurbitifera trifolia spinosa medica, fructu pulpa cydonia æmula." The Sanscrit name of it is *bilva*. It is the *cydonia exotica* of Bauhin, the *covalam* of Rheede*, the *bilanus* of Rumphius (Amb. i. p. 197. t. 81.), the *modjo* or *modsho* of the Javanese, who, by Horsfield's account (in his "List of Javanese Plants") place the fruit amongst their astringents. Roxburgh† speaks of it under the appellation of *ægle marmelos*, placing it in the class and order Polyandria Monogynia; he tells us that it is "a pretty large tree, from the rind of which the Dutch on Ceylon prepare perfume. The wood is light-coloured, variegated with veins; fruit considerably larger than that of the feronia elephantum, smooth; shell much harder; most delicious to the taste, and exquisitely fragrant, nutritious, laxative; mucus of the seed a good cement for some purposes." It would appear that *Serapio* (c. 261.) mentions this tree under the name of *sill* or *sull* سل. See "Historia Rei Herbariæ," vol. i. p. 263.

* Mal. iii. p. 37. t. 37.
† Corom. Plants, 143. vol. ii. p. 23.

Two species of *crateva* are natives of Jamaica, the *tapia* and *gynandra*. Dancer, in his Medical Assistant, informs us, that the bark of the root of the latter blisters like cantharides. See Lunan's Hortus Jamaicensis, vol. i. p. 318.

LXXVII.

COUROU MOELLI கெருமோலொன (Hort. Mal.)
Obadali (Sans.) *Thorny Ironwood.*
SIDEROXYLON SPINOSUM? Mant. 48.

Pentandria Monogynia. Nat. Ord. Dumosæ.

*Courou-moelli** is the name of a shrub on the Malabar coast; the leaves and root of which, boiled in milk, are supposed to be an antidote to the bites of poisonous snakes; the bark, ground with oil, forms a useful liniment in rheumatic affections.

In the first edition of this work, I, at the suggestion of my learned friend Dr. Rottler, asked a question, Whether he supposed this ought or ought not to be called *sideroxylon spinosum?* and this query I still permit to stand. Of the *sideroxylon spinosum*, Willdenow says there is no specimen in Linnæus's Herbarium sufficiently perfect to ascertain the species, and he adds, that *he*, under the name of *sideroxylon spinosum*, had received from *Koenig*, *bonâ fide*, the *flacourtia sepiaria*, a plant which is noticed in another part of this work (amongst the fruits), and there is certainly a resemblance in the names *courou* and *canreu*, which may have led to mistake. The reader is referred to the article *syderoxylon decandrum*† of

* See Hort. Mal. v. p. 77. t. 39.
† The syd. spinosum foliis deciduis ellipticis, *Mant.* 48.

Willdenow (Spec. Plant. i. p. 1091.), where he may find matter for settling or continuing his doubts on this question: he may also consult Miller, article *syderoxylon decandrum.**

LXXVIII.

CUMBI PISIN கடம்பிசின (Tam.) *Dik-millie* دکملي (Duk.) *Cumbi Gum.*

This is a strong smelling gum-resin, not unlike myrrh in appearance, and possessing, the Hakeems say, nearly similar virtues; it is, however, far more active, and ought, on that account, to be administered in very small doses; as an external application, it is employed, dissolved in spirits, for cleaning foul ulcers, and, where the balsam of Peru† cannot be obtained, might be used as a substitute for arresting the progress of sphacelous and phagedenic affections, which that medicine has the power of doing (at least in hot climates) in a very wonderful manner: I have laboured in vain to ascertain whence it comes from, or from what plant it is procured.

* The species sideroxylon *tomentosum* (Willd.) and the sid. *grandiflorum* (Wall.) are both natives of mountainous countries in Upper India. See Flora Indica, vol. ii. p. 348.

† While in India, the author of this work wrote a paper on the virtues of balsam of Peru in arresting mortification and sphacelous ulcers, and which, on his return to India, was published in the first number of the Asiatic Journal.

LXXIX.

CUNDUNGHATRIE VAYR கண்டங்கத்திரி வேர் (Tam.) *Kootāya* (Hind.) *Dorlé ké jur* ڈورلي کي جر (Duk.) *Van-kudavayroo* (Tel.) *Ussili-badenjān-burrie* (Arab.) also *Nela mulaka* (Tel.) *Katu-wæl batu* (Cyng.) *Chudra* also *Kantakārī* कण्टकारी (Sans. Beng. and Hind.) *Root of Jacquin's Night-shade.*

SOLANUM JACQUINI (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Luridæ. *Jacquinischer Nachtschatten* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "*Cor.* rotata; *antheræ* subcoalitæ, apice poro gemino dehiscentes; *bacca* 2-locularis." (Spec. Plant. 383.)

The species which is growing in the botanical garden of Calcutta has a decumbent stem, diffused and prickly; *leaves* pinnatifid and prickly all over; *segments* sinuate, obtuse, naked at the edge; *calyxes* prickly (*Miller*). Willdenow tells us, that he has seen a variety "*laciniis foliorum vix sinuatis.*"*

The small, bitterish, and subacid fruit, as well as the root, of this species of *solanum*, the native practitioners consider as expectorant, and prescribe them accordingly in coughs and consumptive complaints, also in humoral asthma, in the form of decoction, electuary, and pill; of the first, half an ounce is given

* Roxburgh, in his Flora Indica, vol. ii. p. 251, gives a very different description of the same plant, observing, that it has no stem, and smooth oblong leaves, often in pairs.

twice daily. The juice of the berry of the species *bahamense* * is bitterish, and is used in the West Indies in cases of sore throat. See Lunan's Hortus Jamaicensis, vol. i. p. 152.

LXXX.

CUNJA KORAY கஞ்சாகோரை (Tam.) *Suffaid toolsie* سفيد تلسي (Duk.) *Badrooge Abbeez* (Arab.) *Kooka tŏlasie* (Tel.) *Viswa tulasī* विश्वतुलसी (Sans.) *White Basil*, or *Indian Tea*. Ocimum Album (Lin.).

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Verticillatæ. *Weisses Basilienkraut* (Nom. Triv. Willd.).

Of the essentials of the genus, Willdenow says, "*Calyx* labio superiore orbiculato; inferiore quadrifido; *Corollæ* resupinatæ alterum labium 4-fidum; alterum indivisum; *filamenta* exteriora basi processum emittentia." Spec. Plant. 1121.

The species in question seldom rises more than a foot high; the stem of a greenish-white colour, woody at the base; the leaves, which are commonly broader and thicker than those of the other species, are from two to three inches long, and of a pale-green colour, ovate, and bluntly serrated; the whorls of the racemes approximating, the mature ones four-cornered; the corollas, large, white, crenate. It is a native of Java as well as India.

* Another species, *manosum*, is considered as a medicinal plant in the West Indies; a decoction of the root is bitter, and is reckoned a valuable diuretic; the juice of it is given, with sugar, in consumptions. See Barham's Jamaica Plants, p. 117.

The leaves have a most pleasant aromatic taste and an agreeable smell; they are considered by the natives as stomachic, and the juice of them is prescribed in the catarrhs of children: an infusion of them (they having been carefully dried in the shade) is used as a pleasant and wholesome tea* by such Europeans in India as cannot afford the China article. I find another Sanscrit name for the plant is अर्जक *arjaca*. Of the juice of the leaves about a tea-spoonful may be given twice in the day to a child suffering from catarrh.

LXXXI.

DAUD-MAREE (Beng.) also *Bun-murich* (Beng.) *Aghundra-pakoo* (Tel.) *Blistering Ammania.*

AMMANIA VESICATORIA (Roxb.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Calacanthemæ.

Of the essential character, Roxburgh says, "*Corol.* four-petalled, or none; when present, inserted in the plaited mouth of the calyx, which is from four to eight toothed; *capsule* superior, from one to four-celled; *seeds* numerous. *Flora Indica*, vol. i. p. 447.

The species in question is an annual plant, found in wet cultivated land during the rainy season; it rises to the height of from six to thirty-six inches high; the *branches*, below opposite, decussated; above

* The leaves of various plants are used as substitutes for tea in different parts of the world: the Peruvians, for this purpose, employ those of the *xuarezia biblora* (Ruiz), which they call by the name of The de Peru. See Flora Peruviana, vol. ii. p. 13. See article Tea, in Part I. Chap. I. of his work.

frequently alternate; *leaves* opposite, sessile, lanceolar, smooth; *floral leaves* many times smaller than those below; *coral* none; *pericarp* one-celled, one-valved, half-covered with the calyx. Five species of ammania are growing in the botanical garden of Calcutta. Three species are natives of Ceylon (Moon's Catalogue, p. 11.).

Our present article has a strong muriatic smell, but not disagreeable; the leaves are extremely acrid, and are used by the natives to raise blisters in rheumatism, fevers, &c.; the fresh leaves, bruised and applied to the part intended to be blistered, perform their office in half an hour, and most effectually.*

Of this genus there are two species, natives of Jamaica, viz. *latifolia* and *sanguinolenta*†; the first is Browne's *ismardia*.

LXXXII.

DAUN GUNDI (Mal.) *Bandura* (Cyng.) *Urticaria* (Rumph.) *Distilling Nepenthes.*

NEPENTHES DESTILLATORIA (Lin.).

Cl. and Ord. Dicœcia Monadelphia. *Zeylonischer Kannenstrauch* (Nom. Triv. Willd.).

Of the essential character, Willdenow says,

"MASCULI. *Cal.* 4-partitus patens interne coloratus; *cor.* 0; *filament.* columnare; *anth.* 15-17 connatæ.

"FEMINEI. *Cal.* and *cor.* maris; *stigma* pellatum sessile; *caps.* 4-locul.; polysperma" (Spec. Plant. vol. iv. 1853.).

* See Flora Indica, vol. i. p. 447.

† See Lunan's Hortus Jamaicensis, vol. i. pp. 18, 19.

The species in question is a beautiful plant, and was first brought from Ceylon, but is now common in some of the mission-gardens of Lower India; it has a fungous, thick, round stalk; leaves alternate, sessile, broad, oblong, smooth, with a very strong nerve running along the middle, ending in a long tendril, generally twisted, to which hangs a long receptacle or bag, which, on being pressed, yields a sweet, limpid, pleasant, refreshing liquor, in such quantity, that the contents of six or eight of them are sufficient to quench the thirst of a man.* A very good description of it may be found in Pennant, vol. vi. p. 236., who tells us, that the bag or cylindrical tube is sometimes six inches long, and is furnished with a circular valve, completely at times closing the orifice; this tube is filled with the liquor, and which continues during the time the valve is shut; when it is open, the liquor is dried up, but the stock is renewed at night, when the valve is again closed. Of this peculiarity, Willdenow observes, "Genus singulare cujus speciebus folia sunt lanceolata, cirrho terminata et in apice cirrhi ascidium aqua repletum." Spec. Plant. vol. iv. p. 873. See also Burm. Zeyl. t. 17.

LXXXIII.

ELANDEI VAYR யலந்தைவேர் (Tam.) *Kool* (Beng.) *Bayr ké jurr* بير کي جر (Duk.) *Usslie suddir* (Arab.) *Réygoovayroo* (Tel.) *Vadarī* वदरी (Sans.) *Root of the Blunt-leaved Buckthorn.*

Zizyphus Jujuba (Lin.).

* See Miller's Bot. Dictionary, article Nepenthes.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Dumosæ. *Jujuba Judendorn* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "*Cal.* tubulosus; *cor.* squamæ stamina munientes calyci insertæ; *drupa* nuce mono vel disperma. Spec. Plant. vol. i. species 406.

The species, the root of which is the article now under discussion, is a very beautiful little tree, common on the Coromandel coast, and which was growing in the botanical garden of Calcutta, in 1814. The leaves are small, roundish-ovate, blunt, tomentous underneath, peduncles aggregate; flowers semi-digynous. It is the *malum indicum* of Rumphius, and *perim toddal* of *Rheed.* (Mal. iv. p. 85. t. 41.) At the lower part of each leaf (which is of a bright-green colour outside, and whitish within), and close to the petiole, there is commonly a small recurved prickle, that peculiarly distinguishes this species, which, in addition to the names already given for it—I may mention has the Bengalie one of *kool;* it is in some parts of Arabia called *zatuzze-wánib* ذاةالذوانب; its Hindooie appellation is *bir* بر. It grows on Ceylon, and is there called *ilanda.* See Hort. Mal. iv. t. 41. for Rheede's account of it.

The root, which is rather insipid to the taste, is prescribed in decoction by the Vytians, in conjunction with sundry warm seeds, as a drink in certain cases of fever; but I am inclined to think that it has little virtue. The timber of the tree is noticed in another part of this work. The dose of the decoction is about four ounces twice daily.

Somewhat different descriptions have been given of this plant by Loureiro, Gærtner, and others, but perhaps the best is by Dr. Roxburgh, in vol. ii. of the Flora Indica, p. 357, who tells us, that it has a trunk

seldom straight, yet not much bent, scabrous bark; branches spreading in every direction; thorns stipulatory, the under one recurved, the upper sharp; leaves short-petioled, alternate, obliquely-oval and serrate; flowers axillary; drupe globular, size of a cherry, yellow when ripe, and eaten by all classes. The excellent Dr. Wallich informs us that there is a variety of this species, which produces fruit of a long form, about the size of a hen's egg, and which is excellent. Its Bengalie is *narikelee kool;* its Sanscrit *rajuvudura.* See same vol. and page just quoted.

LXXXIV.

ELAVUM PISIN இலவம்பிசின (Tam.) *Huttian ka gond* ہتیان کا گوند (Duk.) *Shwet-shimool* (Beng.) *Booragābúnka* (Tel.) *Gum of the Cotton Tree.*

BOMBAX PENTANDRUM (Lin.).

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Fünffadiger Wollbaum* (Nom. Triv. Willd.).

A solution of this gum is given in conjunction with spices in certain stages of bowel-complaints. We are told by Rumphius (Amb. i. p. 194. t. 80.), who speaks of the tree under the name of *eriophoros Javana,* that the inhabitants of the island of Celebes eat the seeds of it. It is the *capock* of the Malays.

Of the essential character, Willdenow says, "*Cal.* 3-fidus; *stam.* 5 s. multa; *caps.* lignosa 5-locularis, 5-valvis; *sem.* canata, *recept.* 5-gonum." Spec. Plant. vol. iii. p. 731.

Of the species in question, which is the *pulun-imbul* of the Cyngalese, it may be here observed, that it is a most singular looking, but beautiful tree; the branches growing out nearly horizontally * from the stem, three from one point, making amongst them three equal angles; the flowers five-stamened; leaves in sets of seven, the two smallest at the bottom. For further accounts of this tree and its fruit (containing cotton) the reader is referred to other parts of this work. In Sanscrit the tree is called *mullie:* it is the *pania-paniala* of the Hort. Mal. (iii. p. 59. t. 49, 50, 51.) This species, with three others, are growing in the botanical garden of Calcutta, the species *heptaphyllum* is there called in Bengalese *ruckta shimool.*

LXXXV.

ELEKULLIE ചെമ്പകകൊന്ന (Tam.) *Shij* (Beng. and Hind.) *Putteoon ká saynd* پتونكي سند (Duk.) *Su-suru* (Jav.) *Vurki zukkoom* (Arab.) *Akoojémoodoo* (Tel.) *Daun sudu-sudu* (Mal.) *Paluk* (Cyng.) *Puttakarie*, also *Seej* (Sans.) *Oleander-leaved Spurge.*

EUPHORBIA NERÜFOLIA (Lin.).

Cl. and Ord. Dodecandria Trigynia. Nat. Ord. Tricoccæ. *Oleanderblattrige Wolfsmilch* (Nom. Triv. Willd.).

The somewhat acrid tasted juice of the leaves of this plant the native practitioners prescribe internally as a purge and deobstruent, in those visceral obstruc-

* Foliis digitalis, brachiis horizontaliter porrectis. Browne, Jamaic. p. 277.

tions and dropsical affections which are consequent of long continued intermittent fever: the quantity given for a dose is about a quarter of a pagoda weight. It is also used, mixed with *margosa* oil, as an external application in such cases of contracted limb as are induced by ill-treated rheumatic affections.* The plant is the *ella calli* of Rheed (Mal. ii. p. 83. t. 43.). and the *ligularia* of Rumphius (Amb. iv. p. 88. t. 40.), who tells us, that the Javanese reckon the young leaves as stomachic. On the western coast of India, the bark of the root boiled in rice-water and arrack, is considered a useful medicine in dropsy; the leaves, no doubt, have a diuretic quality. The milky juice, boiled with butter-milk, is often given to loosen the bowels. *Horsfield*, in his "List of Javanese Medical Plants," places this article amongst the cathartics. *Avicenna* speaks of it under the name of مهودنا (Avicen. 210.), observing "Lactescentem et subvenenosam esse plantam, cujus folia rariora Nerio simile sunt." Vide Historia rei Herbariæ, vol. i. p. 263.

Of the essential character of the genus, Willdenow says, "*Cor.* 4-s. 5-petala, calyci insidens; *cal.* 1-phyllus, ventricosus; *caps.* 3-cocca."

The species† in question grows to a greater height than most of the others; "sometimes as high as seven or eight feet or more; with a strong upright stem, irregular angles, and protuberances oblique to the angles; at every protuberance, and at the top, are oblong leaves, smooth, entire, and round at the end; the flowers sit close to the branches, and are of a

* Loureiro, in his Flora Cochin-Chin., observes, in speaking of the virtues of this plant, emetica, purgans, acris, *nec tuta*. See vol. i. p. 299.

† It is growing in the botanical garden of Calcutta with many other species. See Hortus Bengalensis, p. 36. Eight species would appear, by Moon's Catalogue, p. 37. to grow on Ceylon.

greenish-white colour" (*Miller's Dic.*). The *Elékullie* would appear to have got this (its Tamool) name from the circumstance of its leaves being of considerable size. It is the *xuongraongrao* of the Cochin Chinese. Of the species of euphorbia that grow in Jamaica*, two appear to be medicinal, the *euphorb. tithymaloides* and *euph. hirta;* the first, according to *Jaquin,* is supposed by the Americans to possess virtues in venereal affections and in cases of obstructed menses, given in the form of strong decoction; the second, if we may believe *Piso*† and *Barham* (p. 180.), &c., possesses most extraordinary qualities, such as a few drops of the juice of it killing serpents; its efficacy in venereal complaints and dry belly-ache; and its being an antidote to poisons.

LXXXVI.

ELIMITCHUM PULLUM.

See article Lime (Lemon), in Part I. Chap. I. Vol. I.

LXXXVII.

ELOOPEI PUTTAY இலுப்பைபட்டை (Tam.) *Mohé ke chawl* مهي کي چهال (Duk.) *Ippa puttay* (Tel.) *Tel-mee* (Cyng.) *Bark of the long-leaved Bassia.*

BASSIA LONGIFOLIA (Lin.).

* See Lunan's Hortus Jamaicensis, vol. ii. p. 198.
† See his work, De Medicina Brasiliensi.

Cl. and Ord. Dodecandria Monogynia. Nat. Ord. Dumosæ. *Langblattrige-Bassie* (Nom. Triv. Willd.).

The juice of the bark of this lofty tree is prescribed by *Vytians* in rheumatic affections, in the quantity of a table-spoonful twice daily: for an account of the uses of the oil and flowers the reader is referred to other divisions of this work.

Of the essential character of the genus, to which Kœnig gave the name of *Bassia*, in honor of *Fernando Bassi*, curator of the botanic garden of Bologna, Willdenow says, "*Cal.* 4-phyllus; *cor.* 8-fida, tubo inflato; *stamina* 16; *drupa* 5-sperma." *Spec. Plant.* Willd. 930.

Of the species in question, the best description is that by Dr. Klein, in the eighth volume of the Asiatic Researches, p. 502.: "Folia sparsa, petiolata, lanceolata, acuta, integerrima glabra venosa; *flores* longe pedunculati, axillares, solitarii et aggregati, &c." It has been said to be confounded with the *Bassia latifolia* of Roxburgh*, and is sometimes called the *Mahwah tree.* The *Bassia latifolia* we know is the *caat. eloopie* of the Coromandel coast, and is, I am inclined to think, only a variety of the *Bassia longifolia.* It is well described in the Transactions of the Asiatic Society of Bengal (vol. i. p. 300.). I shall merely state further, at this time, that the flowers of our present article (B. longifolia), while they are offensive smelling, are sweetish to the taste; an intoxicating spirit is made from them, and they are eaten by the natives; the fruit is olive-shaped and five-celled, with a seed in each cell (Gærtner). The Sanscrit name of the tree is *mādooka;* the Cyngalese

* Corom. i. p. 20. t. 19.

call it *miele*, also *tel-mee*, but we shall say more of it in another part of this work.

Moon, in his Catalogue, takes no notice of Bassia latifolia, but gives a place to the Bassia longifolia. Willdenow, notwithstanding, makes them distinct plants, but his distinction is merely a shade. See Spec. Plant. vol. ii. part ii. p. 284.

LXXXVIII.

EMBOOREL (Tam.) *Tsheri-velloo* (Tel.) also *Saya-wer* (Tam.) also *Ramiseram vayr* (Tam.) *Chayroot Plant*, or *Indian Madder*.

OLDENLANDIA UMBELLATA (Lin.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. *Stellatæ*. *Doldenblutige Oldenlandie* (Nom. Triv. Willd.).

The small, narrow, pale-green leaves of this low-growing plant the native doctors consider as expectorant, and prescribe them accordingly: of the virtues of the root in poisonous bites, colds, and cutaneous disorders, as mentioned by Miller in his Dictionary, I know nothing. When dried and pounded the leaves are sometimes mixed with flour and made into cakes, which are eaten by such as suffer from consumptive or asthmatic affections. The dose of the decoction of the leaves is about an ounce twice daily. For the use of the root in dyeing the reader is referred to another part of this work*: suffice it here to say that it is employed for giving the best and most durable red to cotton cloth.

* In the upper provinces of Bengal, the species *biflora* is common, and is called پاپڑ in Hindoostanie; in Sanscrit *kshetra-pur-*

Of the essential character, Willdenow says, "*Cor.* tetrapetala; *cal.* 4-partitus, superus; *caps.* 2-locularis, infera, polysperma." *Spec. Plant.* tom. i. p. 674.

The species in question is "a small biennial plant, having an erect stem, and a long slender root, with a few lateral fibres; the *leaves* opposed, tern and quatern, linear and scabrous; *umbels* terminal, inside of the corol hairy. See Corom. Plants (i. p. 2. t. 3.), also Flora Indica (vol. i. p. 442.); in which work Dr. Roxburgh notices eight species of Oldenlandia, but this is the only one used in medicine or the arts.

Roxburgh has described four species, which he calls *alata*, *crystallina*, *biflora*, and *herbacea*, under the names of *gundha-bhadalee* (Beng.); *poonkha* (Beng.); *khet-papura* and *veri-nella-vemos* (Tel.). See Hortus Bengalensis, p. 11.

LXXXIX.

ERUPOVEL ⵡⵔⵓⵒⵡⵍ (Tam.) *Erima pavel* (Mal.).

The root of this plant, which, as it appears in the bazars, has but little sensible taste or smell, is reckoned amongst those medicines which possess alterative qualities, and are prescribed in cases of *cachexia*, *scrophula*, and *syphilis*. Rheede says that the plant of itself is truly cephalic; what its place in botany may be has not yet been ascertained. The dose of the decoction is about half an ounce twice daily.

putee; in Bengalie *khet-papura;* and would appear to be the *heenkaududala* of the Cyngalese, and the *antirrhinum humile* of Burm. Zeyl. xxii. t. 11.

XC.

ERUMIE PAWL எருமைப்பால் (Tam.) *Milk of the Buffalo.*

Bos Bubalus (Lin.).

The milk of the buffalo is of an inferior quality to that of the cow, but is extremely abundant, and of the greatest use to such of the natives as cannot afford cow's milk; indeed, they in general seem to give it a preference; it has a somewhat peculiar taste and smell, and affords a great deal of a coarse kind of butter, of which the natives make *ghee*, noticed in another part of this work, also much curd*: this *curd*, when dried and powdered, is called by the Tamools *kooghaneer*, also *palaconda*, and is prescribed as a cooling medicine.

Dr. Buchanan, in his Journey through Mysore, Canara, and Malabar, tells us, that the buffalo of Lower India is exactly the same as that of Europe, and differs altogether from the Cape animal of the same name. The buffalo of India is of a dirty, blueish-black colour, very ugly, with horns lying backwards, and at the tips curving inwards. The Cape buffalo, *bos Caffer*, has horns very broad at the base, then spreading downwards, next upwards, and at the tips curving inwards.

The Sanscrit name for buffalo is *mahisha*. It is *yerroomie* (Tam.) *Bhyns* بہنس (Hind.) *Jamoos* جاموس (Arab.) *Yennomoo* (Tel.) کاوبان (Pers.) کربو (Malay).

* Virey, in his Histoire Naturelle des Medicamens, says, that it is from the milk of the buffalo that *Parmasan cheese* is made, p. 112.

XCI.

FARA UFARFARA فارهٔ وفرفارهٔ (Arab.).

This is the name of the fruit of a plant, Forskahl found growing in the gardens of Cairo: he says it (the plant) somewhat resembles the Mimosa Nilotica, and is used for fumigating the sick. It may be found worthy of further investigation. See Flor. Egypt. Arab. (p. 151.)

XCII.

FRAUALOT (Javanese).

BRUCEA (Spec. Nov.)

Cl. and Ord. Dicœcia Tetrandria.

I give this a place here from authority from Dr. Horsfield, who, in his "List of Medicinal Plants of Java," notices it, and says that he believes it to be a new species* of *Brucea* which he has discovered; now we know that there are but two species of this genus *hitherto* ascertained, the *Brucea ferruginea*†

* See some account of another species of Brucea, which Dr. Horsfield discovered in Java, under the head *Pātti-lallar*, in this Chapter.

† The Brucea antidysenterica of Bruce (Abyssinia, v. 69.). It is in the bark of this plant that Pelletier discovered, in 1819, an organic salifiable base, to which is given the name of Brucina (*Brucine*); it is intensely bitter, but slightly soluble in water; it unites with acids, forming neutral salts; its action on the animal œconomy is similar to strychnine, but weaker; it is narcotic: dose from one to six grains; it is given in pills, tincture, and mixture, in paralysis and muscular debility. (Magendie.)

(L'Herit. Stirp. Nov. p. 19. t. 10. Ait. Kew, iii. p. 397.), and the *Brucea Sumatrana*. See article *Aympadoo* in this Chapter.

Dr. Horsfield informs us that the plant in question (*fraualot*) is of a bitter nature, and that it possesses properties somewhat similar to those of the *quassia simarouba*, the bark of which is one of our best tonics, and has been employed with great advantage in obstinate diarrhœas, dysentery, and dyspeptic affections.

The essential character of the genus is,

"Masculi. *Cal.* 4-partit.; *cor.* 4-petala; *nect.* quadrilobum.

"Feminei. *Cal. cor.* and *nect.* maris; *pericarp.* 4; monosperma." Spec. Plant. tom. iv. p. 742.

The species *ferruginea*, the only species noticed by Willdenow, was imperfectly described by Bruce, but well by Mons. L'Heretier, who tells us, that it is a middling-sized shrub, with *branches*, few, alternate, patulous, round, and thick; *leaves* alternate, spreading, unequally pinnate; the *flowers*, which are crowded together, are of an herbaceous colour, tinged with red or russet.*

Bruce says that it is a native of Abyssinia, and there called *wooginoos;* the root is valuable in dysentery, and is a plain simple bitter, without any aromatic or resinous taste, leaving in the throat a roughness resembling that from ipecacuanha.

XCIII.

GAMBEER (Malay). *Gambeer*, or *Bastard Catechu.*

Nauclea Gambir (Hunter).

* See Miller's Bot. Dictionary.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Aggregatæ.

Gambeer is the Malay name of a lightish-brown, bitter, and powerfully astringent extract, which is occasionally brought to India from Malay countries, chiefly from Malacca, the west coast of Borneo, Palembang, Rhio, and Bintang, and which is, I am much inclined to think, the substance *cuttacamboo* (Tam.), which I have mentioned under the head of Catechu at page 65 of volume first of this work, as being obtained from the betel-nut tree; now, leaving the *cashcuttie* to be got from that tree, let us conclude that the *cuttacamboo* is the same as the gambir. See vol. ii. of the Transactions of the Batavian Society. The gambeer is employed by the Malays in all cases requiring astringent medicines, and is chewed by them with the betel-leaves: it is procured from the leaves of the tree by boiling. Crawford gives a somewhat different account of gambeer in his History of the Indian Archipelago (vol. i. p. 405.); he says it is got from two different plants, but usually from the *funis uncatus* of Rumphius. Gambeer, he adds, is, properly speaking, the Malay name of the tree; the extract, the natives' name *gutta gambeer* (gutta signifying any gum), and hence, by corruption, our Indian appellation cutta camboo.

XCIV.

GANDAPOORO (Jav.)

ANDROMEDA (Spec. Nov.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Bicornes.

I give this on the authority of Dr. Horsfield, who, in his list of Javanese medicinal plants, simply informs us, that the oil obtained from it has a peculiar odour, is very volatile and heating, and is used by the natives (Javanese) in rheumatic affections. It may be the *andromeda Japonica* described by Thunberg (Jap. p. 181. t. 22.), as all the other species, except the *andromeda Jamaicensis*, are either natives of America, or of some of the most Northern countries of Europe.

Of the essential character, Willdenow says, "*Cal.* 5-partitus; *cor.* ovata; ore 5-fido; *caps.* 5-locularis, valvulis dissepimento, contrariis" (Spec. Plant. tom. ii. p. 607.).

Should it prove to be the Japan plant, it is a tree Thunberg found growing near Nagasaki, "with *branches* coming out by threes or more in a sort of umbel; *racemes* panicled, cylindric, bracted; *leaves* frequent on the twigs, obovate-lanceolate, serrate at the top; *capsule* ovate-globose, five-flowered, with obtuse angles smooth; *seeds* minute." It is the *sis qwas* of the Japanese.*

XCV.

GANDOO (Jav.).

ACACIA SCANDENS (Willd.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Lomentaceæ. *Kletternde Acacie* (Nom. Triv. Willd.).

Dr. Horsfield, in his list of Javanese plants, in-

* Since writing the above, and on more minute inquiry, I find, that the *gandapooro* is a shrub (and not a tree, which the and. Japonica is); it grows in Java, in elevated situations, and, it would appear, that the whole of its parts are penetrated with its peculiar flavour; it may, therefore, be considered as a new species.

forms us, that this plant is considered amongst the emetics of the Javanese; but he does not mention, what part of the plant is used, so that it must become the object of future research.

Of the essential character, Willdenow says,

"HERMAPH. *Cal.* 5-dentatus; *cor.* 5-fida vel 5-petala; *stam.* 4-100; *pist.* 1; *legumen* bivalve.

MASCULI. *Cal.* 5-dentatus; *cor.* 5-fida seu 5-petala; *stam.* 4-100" (Spec. Plant. tom. iv. p. 1049.).

The species in question "climbs to the tops of the tallest trees, with slender but tough and flexile *withes*. It is unarmed, *leaves* conjugate, terminated by a tendril; *leaflets* two-paired, with small subsessile, approximating *flowers*, most of which are abortive; what would appear particularly to distinguish this acacia, is the great size of its legume; the seeds are orbicular, somewhat compressed, with a hard, brown, shining rind, and a black mark (Vide Spec. Plant. 1501, Swartz Observ. 389.). It is a native of both the Indies and Cochin-China; and is, by Miller's account, called in the West Indies *cocoon*. It is the *maha-pus-wæla* of the Cyngalese, (Moon's Catalogue of Ceylon Plants, p. 73.). *Faba marina* of Rumph. (Amb. 5. p. 9. t. 4.), and the *perim-kaku-valli* of Rheed. (Mal. viii. p. 59. t. 32, 33, 34.), and *pusætha*, Flor. Zeyl. 644. Burm. Ind. 222.

XCVI.

GANJA கஞ்சா (Tam.) *Gingi-lacki-lacki* (Mal.) *Ganjah chettoo* (Tel.) *Kanub* قنب (Arab.) *Ganja* (Beng.) *Gindshe* (Jav.) *Sjarank* (Egypt.) *Kanop* (Armen.) *Mafuen*, *Chutsao* (Chinese). *Ganjica* also *Bijeeah* (Sans.) *Hemp*.

CANNABIS SATIVA (Willd.).

Cl. and Ord. Diœcia Pentandria. Nat. Ord. Scabridæ. *Gemeiner Hanf* (Nom. Triv. Willd.).

The leaves of the hemp in India, are frequently added to tobacco, and smoked to increase its intoxicating power; they are also sometimes prescribed in cases of diarrhœa; and inc onjunction with turmeric, onions, and warm gingilie oil, are made into an unction for painful, protruded piles.

Though some people have bestowed on the plant now under our notice, the botanical appellation of *cannabis Indica;* yet, as it does not appear, except in size, to differ at all from the *cannabis sativa* of Europe, we have retained the original specific name. It would seem, however, to be applied to very different purposes in Eastern countries from those for which it is resorted to in colder territories; being chiefly employed in the former, for its inebriating and narcotic qualities. Of late years, however, I understand, that in some districts of central India, cordage and a coarse kind of cloth are occasionally prepared with it; in Nepaul too, by *Kirkpatrick's* account * of that country, it would seem, that linens and sackcloth are sometimes made with it; the Chinese, from what *Barrow* † says, use it little for such purposes, but are acquainted with its intoxicating powers. The Malays, *Crawfurd* ‡ informs us, cultivate the plant only for smoking. The Turks know well its stupifying effects, and call it *malach.* § Linnæus speaks of its "*vis narcotica, phantastica, dementens, anodyna,* et *repellens.*" It would appear, that even the Hottentots use it to get drunk with, and call it *dacha.* We

* See his work, p. 143.
† See his Travels in China, p. 504.
‡ See his History of the Indian Archipelago, vol. i. p. 443.
§ See Virey's Histoire Naturelle des Medicamens, p. 311.

are told by *Avicenna* (131.), that the seeds of the قنب (cannabis sativa), are termed by the Arabians شهدنج, and that the inebriating substance, prepared from the bruised leaves * they name حشيش *hushish.* Some account has been given of a liquid preparation, made from the leaves of the plant under the head *Banghie* in this chapter. For some particulars respecting a sort of electuary into which the leaves enter as an ingredient, the reader is referred to the article *Majum*, also in this chapter. See also *Subjah* سبجا (Duk.), in another part of this work.

The *cannabis sativa* is an annual plant, which often grows in India to the height of nine feet or more; and is much cultivated by the Mahometans in their gardens; the leaves, which vary from one and a half to four inches in length, are alternate, digitate, slender, serrate, and of a pale-green colour. There has been considerable difference of opinion with respect to the true native country of the *Ganjah.* Willdenow says, *habitat in Persia. Gmelin* * thinks it is a native of Tartary. *Thunberg* found it in Japan.‡ Miller, with his usual intelligence, remarks, that its Greek appellation is evidently taken from its Oriental one قنب. *Reichard*, by whom Willdenow has no doubt been guided, assigns it to Persia; notwithstanding what has been affirmed by *Pliny* and Dioscorides, of its growing wild in Europe. Miller notices some curious, perhaps absurd circumstances, respecting the seeds; such as that when eaten by fowls, they make them lay many eggs; and that when bullfinches and goldfinches take them in considerable quantity as food, they have the effect of changing

* See Historia Rei Herbariæ, Springel, vol. i. p. 270.
† See his Flora Siberica.
‡ There called *ma*, also *asa*.

the red and yellow of those birds to total blackness. No oil is extracted from them in India. Some of the Hakeems of the lower provinces, are in the habit of preparing with the seeds a kind of emulsion, which they prescribe in gonorrhœa. See articles, *bangie*, *majum*, and *subja*. The reader will find the cannabis sativa noticed by Rumph. (Amb. 5. t. 180.) under the name of c. foliis digitatis); the plant according to Moon is the *mat-kansha* of the Cyngalese; it is the *ma-fuen* of the Cochin-Chinese.

XCVII.

GODOMOLLA (Jav.)

This is the Javanese name of what Dr. Horsfield tells us, in his account of the medicinal plants of Java, is considered by the natives of that island, as a most valuable diuretic, he believes it to be a species of artemisia; and I think it not at all improbable, that it may be the *artemisia maderaspatna*, already described under the head of *Wormwood*, in Part. I. of this work.

XCVIII.

GOEULA or GEWLA (Tam.) گیولا (Duk.)

This, strictly speaking, is the Dukhanie appellation of brown coloured seeds, about the size of those of the *coriandrum sativum*, but oval; they have a pleasant, sub-aromatic, and mucilaginous taste; and are considered as cardiac and stomachic. They are

prescribed in powder, in doses of half a pagoda weight, by both the Hindoo and Mahometan practitioners. From what plant they are obtained I have not been able to trace, they are only occasionally to be found in the medicine bazars of Lower India.

XCIX.

GUNTI PARINGHIE (Tam.)

This is the Tamool name of a small, knobby, somewhat warm and slightly bitterish-tasted root, which I found in the Madras custom-house; and which, I understand, the natives prescribe in fevers and catarrhs. I am inclined to think that it is brought from some Eastern country to India; or perhaps from Arabia. I mention it here, that it may become an object of further research. The word *paringhie* implies that the article is brought from a foreign country.

C.

GUTTA.

This is the name given amongst the Rajmhal mountains to a kind of bread, which is very palatable, and is prepared with three different grains, *junerah*, *bootah*, and *boora*; holcus saccharatus, zea mays, and holcus spicatus (Hamilton's MSS.).

CI.

GUYJ-PIPPUL, or GUJ-PIPPUL (Beng.) *Guj-pippuli* (Beng.) *Guja-pippulee*, also *Vushira* (Sans.).

POTHOS OFFICINALIS (Roxb.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Piperitæ.

I give this on the authority of Dr. Roxburgh, who in his Flora Indica * mentions, that the fruit of it, cut into transverse pieces, and dried, is an article of some importance in the Hindoo Materia Medica; I wish he had gone further, and said something respecting what its natural and medicinal qualities were.

The plant is a perennial creeper, mounting up to the top of the tallest trees; and, like ivy, taking firm hold with its innumerable roots. "The *leaves* are alternate sub-bifarous, petioled, oblong-cordate, entire, filiform, pointed, and smooth on both sides. Dr. Roxburgh, in his long description of the plant, says, that the substance of the *germs*, which are numerous, is replete with rigid, sharp, vertical bristles, which are readily detached, and stick in the skin, causing pain and itching;" the virtue of the drug, he adds, may reside in these, as it does in the short stiff hairs of the legumes of *carpopogon pruriens*. The *pericarps* are as numerous as the germs, and of the same form, but larger; a few only are fertile, of a soft fleshy texture, one-celled, one-valved; when the fruit is ripe, they detach themselves from the receptacle, and

* Page 452. Serampore edition.

drop off, leaving the seed behind still attached to it. Willdenow gives us twelve species of this genus, which are all natives of hot climates, and most of them parasitical plants. Of the essential character, he says,

"*Spatha*, spadix simplex floribus tectus; *cal.* 0. *petula* quatuor; bacca disperma." Spec. Plant. tom. i. p. 684.

Eight species of pothos grow in the botanical garden of Calcutta, all oriental plants, except the *cordata*, which is a native of America, introduced in 1805.

CII.

HABB-HAL HABBESCHI حب حال حبشي (Arab.)

This is a fruit much used in the northern tracts of Egypt; it is brought by Forskahl's account from Abyssinia, and is a valuable substitute for pepper. It becomes a question from what plant it is obtained. Vide Forskahl's Flora Egypt. Arab. p. 151.

CIII.

IBHARANKUSHA (Beng. and Hind.).

Andropogon Iwarancusa (Philosoph. Transact. vol. 80. 284. t. 16.).

Cl. and Ord. Triandria Digynia. Nat. Ord. Gramina.

This plant the reader may find particularly described by Dr. Roxburgh in his Flora Indica, p. 279.

It is also noticed in the Asiatic Researches (vol. iv. p. 109.); and the virtues of its root have been the subject of a paper by Dr. Blane, in the second part of the 80th vol. of the Philosophical Transactions of the Royal Society of London. It is an erect perennial, with long slender leaves, and is a native of the skirts of the northern mountains * of India. It grows in large tufts, each tuft composed of a number of plants adhering together by their roots, in which roots the medicinal virtue would seem to reside; they are marked with annular cicatrices, and have an agreeable aromatic taste, with a certain degree of bitterness, indicative of its stomachic qualities. The species in question, by all accounts, comes very near to the *andropogon schænanthus*, which is the *camachie pilloo* of the Tamools, already treated of in this chapter.†

CIV.

IDOU MOULLI ഇടൊമൊള്ളൊ (Hort. Mal.) *Elaticanto* (Sans.)

These are names of a tree growing on the Malabar coast, from the bark of the root of which, and also from the flowers and fruit, various preparations are made, which are prescribed in cases of phrensy and madness (See Hort. Mal. part. iv. p. 42.).

* Dr. Blane found it betwixt the river Raptee and the mountains, and Dr. Boyd about Hurdwar.

† Twenty-three species of andropogon are growing in the botanical garden at Calcutta, almost all natives of India. See Hortus Bengalensis, pp. 6, 7. Eight species, by Moon's account, grow on Ceylon (Cat. p. 72.).

CV.

ISPOGHOL VEREI ஸ்பகோலவேரை (Tam.) *Ispoghul* اسپغول (Pers. and Duk.) *Buzray kotuna* بزره كتونا (Arab.) *Ipagool* (Beng. also Hind.) *Spogel Seed.*

PLANTAGO ISPAGHULA (Flem.)

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Plantagines, Juss.

These seeds are of a very cooling nature, and, like those of another species, the *plantago psyllium*, form a rich mucilage with boiling water, which is much used by the native practitioners, and indeed of late years by the European medical men of India, in cases of catarrh, gonorrhœa, and nephritic affections; a pint of boiling water to about two or three drams of the seeds; the seeds are small, ovate-elliptic, convex on the outside, and concave within.

The plant is not cultivated in the lower provinces of India; and, what is singular, I laboured in vain to get the seeds to grow near Madras. Dr. Roxburgh, in his Flora Indica, edited by the excellent Dr. Wallich, tells us, that the native place of this species of plantago is uncertain, but that it is cultivated in Bengal in the cool season. I perceive eight species of plantago grow in the botanical garden of Calcutta.

The plantago ispaghula is an annual, caulescent, with *leaves* linear-lanceolar, three-nerved, slightly woolly; *peduncles* axillary, naked, simple, the length of the leaves; heads cylindric, *capsules*. The *root* is ramous

and annual; *stem*, if any, very short; *flowers* numerous, imbricated, small, dull, white, withering. The species *major* (the *made-xa-tien* of the Cochin-Chinese), we are told by Lunan in his Hortus Jamaicensis (vol. ii. p. 71.), is considered amongst the medicinal plants of Jamaica; the root and leaves are given in decoction in pulmonic complaints; the first is also supposed to have virtues in cases of intermittent fever. The same plant, he adds, is amongst those remedies prescribed in the bites of rattle-snakes; it is a native of Japan, there called *sin-sin-so*.

CVI.

INDRABOVUM (Tam.) also *Tumblé poochie* (Tam.) *Soorypootum poorugoo* (Tel.) also *Aroodrapooragoo* (Tel.) *Beerbotie* بيربوتي (Duk.) *Kirmie Aroose* كرم عروسي (Arab.) *Endraboga-crimie* (Sans.).

MUTELLA OCCIDENTALIS? (Shaw.)

This is a most beautiful scarlet-velvet coloured insect, about the size of a large pea, but flattish, and commonly found, in rainy weather, on reddish sandy soil, near grass; it is one of those medicines which the native doctors consider as efficacious in snake bites, and as a tonic when dried and mixed with a certain portion of the root of the *kolung kovay* (Tam.), which the Tellingoos call *aga-sagĕrooda*, *bryonia epigæa* (Rottler). This insect would appear to be also a native of North America, and is called by Linnæus *mutella Antiguensis*. The dose of the compound powder just mentioned is about twelve or thirteen grains, but not to

be repeated. The powder is made according to the following proportions: five of the dried insects are well rubbed with half a pollam weight (about the weight of five star pagodas) of the finely powdered root of the *bryonia epigæa* (Rottler). See article *Kolung kovay kalung* in this Chapter. *Mutella* is the name of the species; the order is *hymenoptera;* and the variety in question is the *occidentalis.* The antennæ, eyes, legs, and under part of the body are black; sting long and filiform; its colour a beautiful scarlet; abdomen marked with a black belt; it has no wings.

CVII.

IRMINAKULLIE, or EERMINAKULLIE (Tam.) *Yennapotoo nalikeh jemmodoo* (Tel.) *Lisan ul saur* لسان الثور (Arab.) *Gowziban* گوزبان (Pers.) *Hart's Ear,* or *Oleander-leaved Cacalia.*

CACALIA KLEINIA (Lin.).

Cl. and Ord. Syngenesia Æqualis. Nat. Ord. Compositæ Discoideæ. *Canarische Pestwurz* (Nom. Triv. Willd.).

This plant, which has got its oriental names from the leaves resembling in shape the tongue of a cow or a buffalo, has sometimes been called in Europe the *cabbage tree,* from a notion that its stalks in appearance were somewhat like those of the cabbage; it has also another Tamool name, *maunsewie;* it rises with a thick, fleshy stem; the leaves are long, lanceolate, flat, scars of the petioles obsolete. The leaves have a strong, somewhat fetid smell, not unlike that of hemlock. The *Vytians* suppose them

to be efficacious in rheumatic complaints, and give them in decoction; they also prepare an extract from them, which they prescribe in leprous affections.

For further particulars respecting the *cacalia kleinia*, the reader is referred to *Gærtner* (De Fructibus et Seminibus Plantarum), also to Miller's Botanical Dictionary.

Of the essential character of the genus, Willdenow says, "*Recept.* nudum; *pappus* pilosus; *cal.* cylindricus, oblongus, basi tantum subcalyculatus." Spec. Plant. tom. iii. p. 1725.

See article *Muel-schevy*, in this Chapter.

Four species of this genus grow in the botanical garden of Calcutta, all oriental plants. Our article grows on Ceylon, but Mr. Moon gives us no native name for it.

CVIII.

JANG-KANG (Jav.) *Chim-chim-rung* (Cochin-Chin.).

STERCULIA FŒTIDA (Lin.).

Its legume, according to Horsfield, is employed in gonorrhœa, in Java. The sterculia fœtida is a middle-sized tree of the class and order Dodecandria Monogynia, and natural order Tricoccæ; the flowers have a most offensive smell; the leaves are considered as repellent and aperient. Loureiro* informs us, that the seeds are oily, and that, when swallowed incautiously, they bring on nausea and vertigo. Horsfield adds, that the decoction of the legume is mucilaginous and astringent.

* See Flora Cochin-Chinens. vol. ii. p. 586.

CIX.

JUBABA جوبابا (Arab.)

This is the name of a bark occasionally to be met with in the medicine bazars of Western India, and which, I have been told, is brought from Arabia; it is, in general, in pieces about four inches long, of unequal thickness, and concave on one side, furrowed with longitudinal wrinkles, of an iron colour outside, but paler within. I perceive it is noticed by Virey, in his "*Histoire Naturelle des Medicamens*," p. 323, who mentions, that it approaches vanille in taste and smell, though more faint, with a certain degree of bitterness. It is supposed to be antispasmodic, but I cannot speak with confidence about it, and have conversed with no one who had much experience of its medicinal qualities.

CX.

JUWASA جواسا (Hind.) *Hedysarum alhagi.*

See article Manna, in Chapter I.

CXI.

KAAT TOOTTIE (Tam.) *Obtuse-leaved Hibiscus.*
HIBISCUS OBTUSIFOLIA (Willd.).

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Stumpfblattriger* Hibiscus (Nom. Triv. Willd.).

This plant the Tamools call *kāāt toottie*, from its resemblance to the common *toottie* (*sida Mauritiana*), noticed under the head of *Mallow, Substitute for*, and there is certainly a similarity in the leaves, both in appearance and virtues. Those of our present article are soft, toothed, angular, and emollient; and as such they are prized by the Hindoo practitioners.

Of the *hibisc.** *obt.* Willdenow says, "Foliis subtus tomentosis crenatis cordatis, inferioribus subrotundis, superioribus acuminatis trilobis obtusis, floribus cernuis." Of the essential character, "*Cal.* duplex, exterior polyphyllus; *stigmata 5*; *caps.* 5-locularis, polysperma" (Spec. Plant. tom. iii. p. 806.).

CXII.

KADEN PULLU கடன்புல்லு (Hort. Mal.).

Scleria Lithospermia (Willd.)

Cl. and Ord. Monœcia Triandria. Nat. Ord. Calamariæ. *Glanzenfruchtiges Geisselgrass.*

The knotty root of this grass Rheede† tells us, is supposed on the Malabar coast to have anti-nephritic virtues, but I can say nothing of it from my own experience.

Of the genus, Willdenow observes,

"Masculi. *Cal.* gluma 2. s. 6-valvis multiflora; *cor.* glumæ muticæ.

"Feminei. *Cal.* gluma 2. s. 6-valvis uniflora 1-3; *nux* colorata subglobosa."

* It bears a close resemblance to another species, the hibiscus vitifolia.

† See Hort. Mal. part xii. p. 89. t. 48.

The species in question is the carex amboinica of Rumphius (Amb. 6. 20.); it is a perennial plant, it is distinguished by a three-sided somewhat rugged erect *culm*, *leaves* linear, rugged at the edge, *flowers* small, panicled, *rachis* rough. It appears by Lunan's Hortus Jamaicensis, that there are six species of this genus natives of Jamaica.

But one species of scleria was growing in the botanical garden of Calcutta in 1814, the *biflora* (Roxb.); our article, by Moon's account, grows on Ceylon (Catalogue, p. 62.).

CXIII.

KAKAPU கரகக்காடி (Hort. Mal.) *Wælkotala* (Cyng.) *Caela dolo* (Sans.) *Smooth Torenia.* TORENIA ASIATICA (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Asiatische Torenie* (Nom. Triv. Willd.).

I give this plant on the authority of Rheede *, which is at all times good; he says, that the juice of the leaves is considered on the Malabar coast as a cure for gonorrhœa.

Of the essential character of the genus, Miller says, "*Cal.* two-lipped, upper-lip three-cusped; *filam.* the lower with a sterile branchlet; *caps.* two-celled."

The species in question is a low-growing perennial plant, with a creeping stem, and smooth all over, by which it is distinguished from the *tor. hirsuta*, which is hairy; our article has leaves ovate, emarginate, on long petioles, with flowers considerably larger than those of the hirsuta. Another species of

* See Hort. Malab. part ix. p. 103. t. 53.

this genus has been noticed, the *cordifolia* of Roxburgh,* it is hairy, erect, with heart-shaped leaves on short petioles.

Four species of this genus grow in the botanical garden of Calcutta.

CXIV.

KANARI (Malay).

This is the name of a large handsome tree, which, in the Eastern islands, is highly prized for the delicious edible oil it yields, and which is also used for medicinal purposes; the nut it is expressed from is oblong, and nearly the size of a walnut. The kernels, mixed up with sugar, are made into cakes and eaten as bread. See Crawford's History of the Eastern Archipelago, vol. i. p. 381.

CXV.

KATAPA கடபாரி (Tam.) *Kāri* (Sans.).
RHAMNUS? (Spec.)

Further research must determine what this is; but *katapa* is the name given on the Malabar coast, according to Rheede, to a small tree, a decoction of the root of which, he says, is supposed to have virtues in maniacal cases (see Hortus Mal. part 5th p. 94.). Whether this is really a *rhamnus* is very doubtful. Of the thirty-one species noticed by Willdenow, it does not appear that one is a native of India, and but one of China, the *rhamnus theezans.*†

* See Coromandel Plants, vol. ii. p. 32. t. 161.
† Spec. Plant. vol. i. p. 1094.

CXVI.

KATOU-KADALI கசடுதகடுஅல (Hort. Mal.) *Chota phootica* (Beng.) *Heen-bowitiya* (Cyng.) *Citnāqueri* (Sans.) *Rough Melastoma.*

MELASTOMA* ASPERA (Willd.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Calycanthemæ. *Scharf-blattriger Schwarschlund* (Nom. Triv. Willd.).

Kātou-kadali is the name given on the Malabar coast to a little tree, the leaves of which, rubbed and reduced to powder, with dry pepper leaves, and the whole mixed with sugar, is said to ease coughs and relieve the lungs from phlegm. I give the article on the authority of Rheede. See also Burm. Zeyl. t. 72.

Of the essential character of the genus, Willdenow says,

"*Cal.* 5-fidus, campanulatus; *petala* 5, calyci inserta; *bacca* 5-locularis, calyce obvulata." Spec. Plant. vol. ii. p. 581.

The species in question is distinguished by having leaves ovate-lanceolate, three-nerved, and rugged; it is the *fragarius* ruber of Rumphius (Amb. 4. p. 91. t. 43.). Four species are natives of Ceylon. It would appear by Lunan's Hortus Jamaicensis†, that no less than thirty-two species of this genus have been discovered in Jamaica; the

* Mr. Gray, in his Supplement to the Pharmacopœias, informs us, that the berries of various species of melastoma dye a very durable black, p. 104.

† See Hortus Jamaicensis, vol. i. p. 403.

common English name of the genus, is *Indian currant-bush;* though I believe that, according to Browne, this appellation is with most propriety bestowed on the species *lævigata*. Of the thirty-two kinds above spoken of, the only one that appears to be there used in medicine * is the *melastoma hirta;* the powder of the leaves of which, according to Piso †, is a useful application for foul ulcers; he also mentions, that soap is extracted from the berries; it is a plant about a fathom high, with a shrubby stem, and leaves ovate, or ovate-lanceolate, five-nerved, wrinkled, soft, and very hirsute. Our article is growing in the Honorable Company's botanical garden in Calcutta, introduced by the excellent and enlightened Dr. W. Carey, in the year 1810; its Bengalie name is *chota-phootica*.

CXVII.

KOTSJILLETTI-PULLU கொச்சிலெத்திப் புல்லு (Hort. Mal.) also *Kotsjiletri* (Hort. Mal.) *Dadumari* (Sans.) *Indian Xyris*.

XYRIS INDICA (Lin.).

Cl. and Ord. Triandria Monogynia. Nat. Ord. Personatæ. *Indisches Degenkraut* (Nom. Triv. Willd.).

This would appear by Rheede's ‡ acccount, to be

* The species malabathrica is a native of Java; it is there called *siggawe*, and is ranked by the natives amongst their Tonics; it is also a native of Ceylon, and is there named in Cyngalese *maha-bowitiya*.

† See Lunan's Hortus Jamaicensis, vol. i. p. 406.

‡ See Hort. Mal. ix. 139. t. 71.

considered as a plant of great virtue on the Malabar coast; his words are "Foliorum succus cum aceto mixtus impetigini resistit; folia cum radice oleo incocta, contra lepram sumantur; cum mungo (phaseolus mungo), decocta et epota somnum conciliant."

Of the essential character of the genus, Willdenow says, "*Cor.* 3-petala, æqualis, crenata; *glumæ* bivalvis in capitulum; *caps.* supera." Spec. Plant. vol. i. p. 254.

Vahl and Gærtner have both given some account of this perennial plant; we shall merely here notice, that it rises about a foot high, its leaves are ensiform, sheathing the scape, (the leaves being sometimes almost the length of the scape), head globular, scales roundish. But four species of this genus have hitherto been described, two of which are natives of India.*

CXVIII.

KADDIL TAYNGAI கடல்தெங்காய் (Tam.) *Diryā kā nāril* دریا کا ناریل (Duk.) *Samatrapoo tainkāya* (Tel.) *Cocotier de Maldives* (Fr.) *Sea Cocoa-Nut.*

Cocos † Maldivica (Willd.).
Lodoicea Sechellarum (Labill.).

* The xyris Americana of Willdenow, is the plant noticed by Ruiz and Pavon, under the name of *xyris subulata.* See *Flora Peruviana*, tom. i. p. 46.

† Since writing this article, I have had, fortunately, put into my hands by that distinguished botanist, Mr. R. Brown, the ninth vol. of the "Annales du Museum d'Histoire Naturelle;" in it there is a paper (p. 140.) by Labillardiere, by which it appears, that this palm has got the new scientific appellation of *lodoïcea sechellarum.* The kernel, he says, is but indifferent food; the trunk of the tree resembles that of the common cocoa-nut tree.

Cl. and Ord. Monœcia Hexandria. Nat. Ord. Palms. *Maldivische Kokospalme* (Nom. Triv. Willd.).

This species of cocoa-nut, is generally brought to India from the Maldives and Sechelles islands; is convex on one side, and almost flat on the other, oblong, and somewhat pointed at both ends. The shell is dark-coloured, and contains a kernel, not unlike that of the ordinary cocoa-nut, but drier and more insipid. The nuts are often seen floating in the sea, off the coasts of Africa and Arabia, and are in India called in Sanscrit *ubdie narikaylum*. The *Vytians* occasionally prescribe the kernel given in woman's milk, in cases of typhus fever, the dose a quarter of a pagoda weight, twice daily; it is also reputed antiscorbutic, and antivenereal. On Ceylon these nuts are termed *zee calappers*, at the Maldives *tavarcare*. Elmore, in his "*Guide to the Trade of India*," says, that this species of cocoa-nut is especially the produce of the island of *Parslin*, which makes a part of the Archipelago now called *Scechelle*. The shells are made into drinking-cups by the Indian devotees; others suppose them to have the power of counteracting poison!

Of the essential character, Willdenow says,

"*Spatha* universalis univalvis; *spadix* ramosus.

Masculi. *Cal.* triphyllus; *cor.* tripetala.

Feminei. *Cal.* 2-phyllus; *cor.* 6-petala, styl. 0; *stigma* fovea; *drupa* fibrosa" (Spec. Plant. tom. iv. p. 400.).

The species in question would appear to differ

The palm is noticed by Rumphius, Herb. Amb. lib. xii. chap. viii., and by Sonnerat, in his Voyage to New Guinea, pl. iii.; the leaves are used for covering houses, are of a consistence more durable than those of the corypha umbraculifera.

from all the others, in the two particulars of its having *fronds* which are bipinnated, and *folioles* bifid. For further information respecting the *cocos Maldivica*, the reader may consult Sonnerat's Voyage to New Guinea, and Gmelin Syst. Natur. ii. p. 569. I shall merely now add, that the inhabitants of the Maldives find the wood very valuable for ship building. The species *aculeata* is the *macaw* tree of Jamaica. Sloane (vol. ii. p. 121.), says, that the husks of the fruit (which is a small, black, round nut) are full of oil, which some consider as the real palm oil.*

CXIX.

KADUKAI கடுக்காய் (Tam.) *Haritakee* (Sans.) *Chebulic Myrobolan*, or *Ink nut*.

TERMINALIA CHEBULA (Retz.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Elæagni (Juss.).

The flower of this plant in powder, is prescribed by the *Vytians* as a slight astringent † in diarrhœa.

The tree has been already noticed under the head of *myrobolan chebulic*, in the first chapter. It is the araloo of the Cyngalese, and is common in the woods of Malabar; it rises generally to the height of twenty feet, with rather scattered branches, having

* See Lunan's Hortus Jamaicensis, vol. i. p. 468.

† Roxburgh, in vol. ii. p. 52. of the Flora Indica, gives an account of the *galls* which are found on the leaves of this terminalia; they are called *aldecay* by the Hindoos of the Circars; are of an irregular shape, and are sold in every bazar, highly valued by the dyers; with alum, they give a durable yellow; and, with a ferruginous mud, an excellent black; they are considered as even more astringent than the fruit, and are much sought after by the chintz painters.

an ash-coloured bark. The *leaves* are mostly opposite, obovate-oblong, naked; *petioles* biglandular, *racemes* simple. The *flower-stalks* are racemed, with the *flowers* sessile in whorls at the end of the branchlets. Like the rest of the species of this genus the *calyx* is five-parted, there is no *corolla*, and the *stamina* are ten in number. The calyx of the species in question is bell-shaped and short. The flowers are all hermaphrodite.* The species *latifolia*, is a native of the inland woods of Jamaica; it is a large tree. Lunan, in his Hortus Jamaicensis (vol. i. p. 116.), informs us, that the kernel of the fruit is as good as an almond, and that the root in decoction is a useful medicine in diarrhœa.

CXX.

KAIANTAGARIE (Tam.) also *Kursalānkunnie* (Tam.) *Goontagelinjeroo* (Tel.) *Keshooriya* (Beng. and Hind.) *Bungrah* بونگرا (Duk.) *Brinraj* بهرنگراج (Hind.) *Sudu-kirindi* (Cyng.) *Caynu ao tlong* (Coch. Chin.) *Brinraja* (Sans.) *Trailing Eclipta.*

ECLIPTA PROSTRATA (Lin.).

Cl. and Ord. Syngenesia Superflua. Nat. Ord. Corymbiferæ. *Liegende Mehlbume* (Nom. Triv. Willd.).

The whole of this plant, in its green state, and ground small, with the addition of a little of the oil

* See Miller's Botanical Dictionary, also Spec. Plant. Willden. tom. iv. p. 969; a somewhat different description is given in the Flora Indica, vol. ii. p. 52.

of the *sesamum orientale*, is considered, by the native practitioners, as a useful external application in the disease, or morbid enlargement of the leg, called by the Tamools *anaykaal*, or elephant leg (Barbadoes leg); the *dāilfil** of the modern Arabs. It has a peculiar somewhat bitterish taste, and strong smell.

Of the essential character, Willdenow says, "*Recept.* paleaceum; *pappus* nullus; *corollulæ* disci 4-fidæ" (Spec. Plant. tom. iii. p. 2217.).

The species in question, which is an annual plant, and a native of Ceylon, Japan, and Cochin-China, as well as of India, has a prostrate stalk, though it is also often erect, with *leaves* lanceolate, serrated, somewhat waved, and subpetioled; the *flowers*, which are subsessile, come out alternately in pairs, *corolla* white, *anthers* brownish grey; *calyx* simple. It is the *micrelium tolak* of *Forskahl;* see his "Descriptiones Plantarum," &c., 152, 153. The plant has also been called *verbisina prostrata;* and, by *Plukenette*, in the "Leonard. Amaltheum Botanicum," *chrysanthemum* Maderaspatanum.

It is indigenous in India, and is growing in the botanical garden of Calcutta. The species *eclipta erecta* is a native of Cochin-China, where the natives use the juice of the leaves to dye the hair black (Flor. Cochin-Chin. vol. ii. p. 505.), and call the plant itself *co-muc*.

CXXI.

KAKACOLLIE VEREI கரகக்கரகத்தைவேர் (Tam.) *Kakichempoo vittiloo* (Tel.) *Ka-*

* It is the elephas of Haly-Abbas.

kamari (Sans.) *Kakmāri ke beenge* گاک ماري کي بيبج (Duk.) *Cocculus Indicus.**

MENISPERMUM COCCULUS (Lin.).

Cl. and Ord. Diœcia Dodecandria. Nat. Ord. Sarmentaceæ. *Fischetodtender Mondsame* (Nom. Triv. Willd.).

The name cocculus Indicus is, in all probability, taken from the Tamool appellation of the article, which signifies the "*crow-killing seed.*" The plant is the *tuba*† *bidji* of the Malays, and the *natsjatam* of the *Hort. Malab.*

This narcotic berry, which grows in abundance in the woods of the Southern provinces, in the Travancore country, and in Ceylon, is employed by the *Vytians* as a useful external application in cases of inveterate itch and herpes; on such occasions, it is beat into a fine powder, and mixed with a little warm castor-oil. It is also formed into a sort of paste, with moistened rice, for intoxicating birds and fish, in order to catch them.

Of the essential character, Willdenow says,

"MASCULI. *Cal.* 2-phyllus; *petala* 4; s. 6 exteriora, 8 interiora; *stam.* 16.

"FEMINEI. *Cor.* maris; *stam.* 8-sterilia; *germina* 2; s. 3; *baccæ* binæ, monospermæ" (Spec. Plant. tom. iv. p. 829.).

The species in question is a tree with twisting *stems*, which are usually about the thickness of the human arm, and covered with a scabrous wrinkled bark; the *leaves* are cordate, retuse, mucronate, stem jagged; the *flowers*, which are in bunches a

* It has also got the English name of *jagged moonseed.*

† See Marsden's Sumatra, p. 186.

foot and a half long, dividing into several lateral ones, have an unpleasant smell; the *fruit* in bunches, like grapes, but smaller, first red, then white, and finally blackish purple; *pulp* soft; *stone* round, like that of a cherry. The tree, according to Avicenna (211.), was the ماحرج *mahurge* of the Arabians of his day, who were then acquainted with the effect of the berries in intoxicating fish: "Seminibus pisces inebriari."* It is the *coque de Levant* of the French; and MAY BE, perhaps, the same plant which, Niebhur† says, the natives of some of the provinces of Arabia call *symel horat*, and which they use for intoxicating fish. It would appear, that in *Java*, and also in *Ternate*, the fruit of the *Barringtonia speciosa*‡ is used for similar purposes. The *Bar. spec.* is a large and most beautiful tree, of the class and order Monadelphia Polyandria, and natural order *Hesperidæ;* it is the *butonica* of *Rumph.* (Amb. iii. 179. t. 114.); and is a native of many places within the tropics, such as the Southern coasts of China, Molucca Islands, Otaheite, &c. In Jamaica the galega toxicaria is employed for intoxicating fish. In the South Sea Islands the lepidium piscidium is used for the same purpose.

Our present article is the *tuba baccifera* of Rumphius. Orphila places the fruit of it amongst his Poisons; and, in his work§, tells us, that Monsieur *Goupil* has given to the Society of Medicine of Paris some interesting facts, proving that it is not

* See Historia Rei Herbariæ Sprengel, tom. i. p. 271.

† See his Travels, vol. ii. p. 361.

‡ The Barringtonia speciosa, I have been told, but from somewhat doubtful authority, grows on Ceylon, and is there called *kadol*. I do not see that it is mentioned in Mr. Moon's Catalogue of Ceylon Plants.

§ See Traité des Poisons, vol. ii. part ii. p. 22.

only a poison for fish, but for other animals; he supposes it to act like camphor. Nay, Marcet* informs us, that it is a poison for even vegetable substances themselves.

Fourteen species of menispermum are growing in the Honourable Company's garden at Calcutta, eight of which are natives of India. The species *verrucosum* (Roxb.), a native of Sumatra, was introduced by Captain Wright, and is the *putra-walli* of the Malays. The men. triandrum, a native of the Malay Islands, was introduced by Mr. C. Smith, in 1797. See Hortus Bengalensis (p. 72.). The leaves of the species *hirsutum* (Roxb.), when agitated in water, render it mucilaginous.

CXXII.

KALLI கள்ளி (Tam.) *Lunka-shij* (Beng.) *Kayoo-oorb* (Jav.) *Gas-nawa-handi* (Cyng.) *Cay-san-ho-xanh* (Coch. Chin.) *Milk Hedge*, or *Indian Tree Spurge*.

EUPHORBIA TIRUCALLI (Lin.).

Cl. and Ord. Dodecandria Trigynia. Nat. Ord. Tricoccæ. *Malabarische Wolfsmilch* (Nom. Triv. Willd.).

The Hindoo practitioners use the fresh acrid juice of this plant as a vesicatory. By Rheede's *Hortus Malabaricus*† it appears, that a decoction of the

* It appears, by Marcet's excellent Memoir on the Action of Poisons on Vegetable Substances, that a solution prepared with an extract made with the seeds of the menispermum cocculus killed a bean plant in twenty-four hours. See Journal of Science, Literature, and the Arts, No. xxxix. p. 194.

† See Hort. Mal. part ii. p. 86.

tender branches is given in certain cases of colic, and that the milky juice of them mixed with a little butter*, is prescribed as a purge on the Malabar coast, where the plant is called *tiru calli*. It is the *ossifraga lactea* of Rumphius, Amb. vii. p. 62. t. 29. Rheede supposes the virtues of this species of euphorbia to resemble those of the *shadraycully* (euphorbia antiquorum). I see, by Dr. Horsfield's Account of the Medicinal Plants of Java, that the Javanese also use the *kalli*, which they call *kayoo-oorb*, as a vesicatory. The French term the plant *euphorbe antivenerien*. Virey†, in speaking of it, says, "Guerit *tres bien* l'affection venerienne; il est aussi purgative et vomative." Loureiro notices the caustic nature of our article: "Oculos si tangat excæcat." Flor. Cochin-Chin. vol. i. p. 299.

The essentials of the genus are, "*Cor.* 4; s. 5-petala, calyci insidens; *cal.* 1-phyllus, ventricosus; *caps.* 3-cocca" (Spec. Plant. Willd. vol. ii. p. 881.).

The species in question rises to the height of twelve or fourteen feet, or more, with numerous slender branches, smooth, and of a bright green colour, having a very few, most minute leaves at the extremity, which soon fall off; as the plant grows older the stalks become stronger and less succulent, especially towards the bottom, where they turn to a brown colour, and become a little woody. Forskahl, in his Description of Arabian Plants, mentions the kalli under the name of دهن. It is employed by the Hindoos in the arts, also for making hedges round their gardens, and as manure; it is singular, that,

* Butter, Hamilton found given with honey, as a remedy for coughs in Barar. It is *haiyang* in Sanscrit, and *makkham* in Hindoostanee. *Ghee* is *habi* in Sanscrit, and *ghiy* in Hind. MSS.

† See his "Histoire Naturelle des Medicamens," p. 299.

notwithstanding the peculiar acrimony of the juice, goats eat the plant with impunity. For further particulars respecting the *euphor. tiric.* see other parts of this work.

No less than twenty-one species of *euphorbia* are growing in the Honourable Company's botanical garden of Calcutta. The *sessiflora* (Roxb.) was introduced from Pegu by Mr. F. Carey, in 1808; the *hyberna* and *maculata*, by W. Hamilton, Esq. See Hortus Bengalensis, p. 35. See article *Elekulli*, in this Chapter.

CXXIII.

KALICHIKAI கள்ளிக்காய் (Tam.) *Gudgéga* گجگ (Duk.) *Getsakaia* (Tel.) *Cāt-caleji* (Hind.) also *Natacaranja* (Hind.) *Klichi* (Javan.) *Wæl-kumburu* (Cyng.) *Koobayratchie* also *Prakirya* (Sans.) also *Calimaraca* (Sans.) *Grey Bonduc Nut.*

GUILANDINA BONDUCELLA (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ. *Zweystachliche Guilandine* (Nom. Triv. Willd.).

The kernels of the ash-coloured nuts of this species of *guilandina* are very bitter, but not unpleasant to the taste; they are supposed, by the native practitioners, to possess powerful tonic virtues, and are prescribed in cases of intermittent fever, in conjunction with some powdered spice, with the happiest effects. When pounded small, and mixed with castor-oil, they form a valuable external appli-

cation in incipient hydrocele. The dose of the kernels is commonly half of a kernel in the course of twenty-four hours in divided doses, but the medicine may be given in greater quantities. At Amboyna the seeds are considered as anthelmintic, and the root is a good tonic in dyspeptic complaints.*

The following is the essential character of the genus: "*Cal.* one-leaved, salver-shaped; *petals* inserted into the neck of the calyx, nearly equal; *seed vessel* a legume."

Our present article is a weakly plant, which frequently rises amongst neighbouring bushes, if it finds due support. The stalk and branches are full of thorns that arch backwards; the *pinnas* are oblong-ovate, with double prickles at the leaflets; and in these two last particulars it seems chiefly to differ from the *guilandina bonduc*†, which has (according to Lamarck) *pinnas* simply ovate, and only solitary prickles at the leaflets; but there is also this difference in the plants, the colour of the nut of our article is *grey*, whilst that of the other is *yellow*, finely variegated with annular saffron-coloured zones. In India the nuts are worn as beads, and the boys use them as marbles. The tree is the *caretti* of Rheede, Mal. ii. p. 35. t. 22.; and the *catti catti* of the Malays. Rumphius says, that at Amboyna the seeds are considered as of a binding quality, and that the inhabitants are in the habit of eating them, from a notion that they will make them hardy‡

* Since writing the above, an able medical practitioner, Dr. Sherwood, informs me, that he found the leaves a valuable discutient in cases of *hernia humoralis*, fried with a little castor-oil.

† Called in Cyngalese KALU-WAWUL ÆTIYA, and in Hindoostanie *lotah*.

‡ See Rumph. Amb. tom. v. p. 90.

and invulnerable in war. We shall say more of the guilandina bonducella in another part of this work.

The plant is growing in the botanical garden of Calcutta. It is the *nam-sie-lac* of the Cochin-Chinese, by whom the *leaves* are considered as deobstruent and emmenagogue; the *root* astringent; *nuts* emetic; and the *oil* obtained from them useful, externally, in convulsions and palsy. See Flor. Cochin-Chin. vol. i. p. 265.

CXXIV.

KAMADU (Malay). *Great Nettle.*

URTICA URENS (Ger.).

The broad leaf of this plant, Mr. Crawfurd tells us, in his History of the Indian Archipelago, vol. i. p. 467., is a powerful stimulant, the least touch of it producing great irritation and pain. It is of the Class and Order Monœcia Tetrandria, and Nat. Ord. Urticæ (Juss.).

CXXV.

KAMBODSHA (Javanese). *Blunt-leaved Plumeria. Hoa-sutlang* (Coch. Chin.).

PLUMERIA OBTUSA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. *Contortæ. Stumpfblattrige Plumierie* (Nom. Triv. Willd.).

This is given on the authority of Dr. Horsfield,

who tells us, in his Account of the Medicinal Plants of Java, that it is used as a cathartic by the inhabitants of that island; it is the root of the plant that is used.*

The essential character of this genus is, "Contorta, *folliculæ* 2, reflexi; *semina* membranæ propriæ inserta."

Our article is described by Loureiro, in his *Flora Cochinensis*, as a large thick tree, with an ash-coloured smooth milky bark, and twisting branches; *leaves* large, quite entire, flat, smooth; *flowers*, or, more properly speaking, the *corollas*, sweet-smelling, white, mixed on the outside with red, and in the inside with yellow. Plumier found it in South America, and it would seem to be a native also of Amboyna, China, and Cochin-China, as well as Java. There would appear, from what Miller says, to be some doubt whether it is the *flos convolutus* of Rumphius, Amb. iv. p. 85. t. 38; indeed, Willdenow himself does not say it is, with much confidence. All the species of this genus are characterized by containing more or less of a milky juice. The P. acuminata is a native of India; its Bengalese name *gobur champa*. Our article is distinguished from the others by having leaves "lanceolatis peteolatis obtusis." Spec. Plant. Willd. tom. i. p. 1243.

* Moon, in his Catalogue of Ceylon Plants, notices but one species of Plumeria as growing in that island, the P. acuminata, which has got the Cyngalese names of alariya and kaneru. See Cat. p. 20., also Rumph. (Amb. iv. t. 38.)

CXXVI.

KARAWAY PILLAY (Tam.) *Karay paak* كريپاك (Duk.) *Karrivaympakoo* (Tel.) *Kristna nimbao* (Sans.) *Leaf of the Bergera of Kœnig.*

BERGERA KŒNIGII (Roxb.).

This is the leaf * of a very lofty and leafy tree, of the class and order Decandria Pentagynia. The Hindoos consider the leaves as stomachic; and tonic an infusion of them toasted, stops vomiting; the bark † and root are used internally as stimuli.

CXXVII.

KARKAKARTAN VAYR கர்கடகர்ட்டான் வேர் (Tam.) *Nulla-ghentana vayroo* (Tel.) *Kalizer ké kéjurr* كالي زر كي كيجر (Duk.) *Katarodu* (Cyng.) *Neela-gherie kurnee* (Sans.) *Winged-leaved Clitoria Root.*

CLITORIA TERNATEA (Lin.)

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Molukkische Clitorisblume* (Nom. Triv. Willd.).

The sweetish tasted, yet somewhat warm, white,

* The green leaves are used raw in dysentery; they are also much employed by the Hindoos to season their food with. More will be said of this most useful tree in another part of this work, though I may here add, that the leaves are alternate, petioled, unequally pinnated, about two inches long and half as broad, and, when rubbed, have a singular, as it were, burnt smell and warmish taste.

† See Roxburgh's Cor. Plants, vol. ii. p. 7.

root of the *clitoria ternatea* as it appears in the Indian bazars, is about the thickness of two quills, and is given in substance ground into powder in croup cases; it sickens and sometimes vomits; the dose is about half a pagoda weight for a child of two or three years old.

Of the essential character, Willdenow says, "*Cor.* supinata; vexillo maximo patente alas obumbrante." Spec. Plant. tom. iii. p. 1068.

The species in question is noticed by Rumph. (Amb. v. 31.), and is a shrub which commonly rises to the height of five or six feet, with twining branches; leaves quinato-pinnate, and peduncles axillary and uniflorous. There are two varieties of this species, the one with white, the other blue flowers; the latter is the article now under consideration, and is the *nil-katarodu* of the Cyngalese. The corolla is a blue dye, but not permanent. The legume is narrow, and about the length of the finger, the seeds solitary, from seven to eight in number, and of an ovate kidney form. The plant is common in Cochin-China *, there termed *cay-dau-biec*, also in the woods of Malabar, and there called *shlonga-kuspi;* it is too a native of *Cochin-China* and the *Molucca Islands*, especially *Ternate*, hence the specific name was given to it by Tournefort.

Lunan, in his Hortus Jamaicensis, informs us (vol. i. p. 102.), that this species of clitoria is indigenous in Jamaica. Five species of clitoria grow in the botanical garden of Calcutta; our article which is indigenous in India, is called in Bengalese *upurajita*.

* The Cochin-Chinese use the flowers as a blue dye, but do not find it lasting. Flor. Cochin-Chin. vol. ii. p. 454.

CXXVIII.

KARPOOGA ARISEE (Tam.) *Bapungie* (Tel.) *Bawchan* باوچان (Duk.) *Vakoochie* (Sans.) *Hazel-nut-leaved Psoralea, Seed of.*

PSORALEA CORYLIFOLIA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ.

This is a dark brown coloured seed, about the size of a large pin's head, and somewhat oval-shaped; it has an aromatic yet unctuous taste, and a certain degree of bitterness. The native practitioners consider it as stomachic and deobstruent, and prescribe it in cases of lepra, and other inveterate cutaneous affections.

Of the essential character, Willdenow says, "*Cal.* longitudine leguminis; *stamina* diadelphia; *legumen* monospermum, subrostratum evalve." Spec. Plant. tom. iii. p. 1342.

The species in question is an annual plant, seldom rising higher than three feet; and common in Southern India. It has at each joint one leaf about two inches long, and one and a half broad, the flowers are of a pale flesh colour, and are produced on long, slender, axillary peduncles.* It may be distinguished from all the other species; "foliis simplicibus ovatis, subdentatis: spicis ovatis."† See Burm. Ind. t. 49. f. 2.

There are three species of psoralea growing in the botanical garden of Calcutta: our article is called in

* See Miller.

† Spec. Plant. Willd. tom. iii. p. 1351.

Bengalese and Hindoostanie *hakooch*. See Hortus Bengalensis, p. 58. Our article, by Moon's account, (Cat. p. 55.), grows on Ceylon, and is noticed by Burman, Ind. t. 49. f. 2.

CXXIX.

KAROOVELUM PUTTAY கருவேலம்பட்டை (Tam.) *Nullatooma puttay* (Tel.) *Kalikékérkéchawl* چهال کيکر کالي (Duk.) *Cushercumghylan assœd* (Arab.) *Bark of the Acacia Arabica.*

ACACIA ARABICA (Willd.).

Polygamia Monœcia. Nat. Ord. Lomentaceæ. *Arabische Acacie* (Nom. Triv. Willd.).

This bark is considered by the native doctors as a powerful tonic, and an infusion of it prescribed in cases requiring medicines of this description, in the quantity of about three or four ounces twice daily; it is supposed to be particularly indicated in the extreme languor and sinking consequent of the bites of certain snakes, which are sometimes accompanied with spitting of blood and voiding it by urine. A strong decoction of it, the *Vytians* order as a wash for foul ulcers; and the fine powder of it mixed with gingilie oil, they recommend as a valuable external application in cancerous affections. The gum * *karoovelum pisin* (Tam.), is substituted occasionally for the

* We are told by Roxburgh, in his Corom. Plants, vol. ii. p. 26., that the natives mix this gum with the seeds of the sesamum orientale, left after the oil is expressed, and use it as food; and also, that a decoction of the pods are used as a substitute for that of the seeds of the mimosa saponaria for washing.

real gum Arabic, all over India, particularly in Bengal (See article *gum Arab.* in vol. i. p. 160.).

Of the essential character of the genus, Willdenow says,

HERMAPH. *Cal.* 5-dentatus; *cor.* 5-fida, vel 5-petala; *stam.* 4-100; *pist.* 1; *legumen* bivalve.

"MASCULI. *Cal.* 5-dentatus; *cor.* 5-fida, seu 5-petala; *stam.* 4-100. *Spec. Plant.* tom. iv. p. 1049.

The species in question is a large and most useful tree, common in the woods on the Coromandel coast, and well described by Roxburgh, in his Corom. Plants (vol. ii. p. 26.); it is the *mimosa Arabica* of Lamarck, (Encycl. i. p.19.); of the cl. and ord. *Polygamia Monoecia*, and nat. ord. *Lomentaceæ;* the trivial name given to it by Willdenow is *Arabische Acacie.* It has several names in Sanscrit; the three most common are *kristnah cadira*, *babura* and *arimada;* in Bengal the tree is called *babul* (Hind.) For the uses of the wood, flowers, and bark in the arts, the reader is referred to other parts of this work.

The following distinguishing character of the species differs from Willdenow's in some particulars; "*Spines* in pairs; *leaves* trijugate and quadrijugate; *foliations* multijugate; *folioles* linear, acute, contiguous; *petioles* pubescent, with a gland below the foliations; *legumina* moniliform, compressed, tomentose." *

It would appear, by Moon's Catalogue of Ceylon Plants, that the *acacia, vera* or Egyptian thorn, was growing on Ceylon, and there called in Cyngalese *katuandaru;* so we must conclude, that the real gum Arabic may there be procured (See Catalogue of Ceylon Plants, p. 73.).

* See Stokes's Botanical Materia Medica, vol. iii. pp. 170, 171.

CXXX.

KARPOORAWULLIE கற்பூரவல்லி (Tam.) *Kuruwehloo*, or *Karpooruwullie* (Tel.) *Sitāké pungérie* سيتاكي پنجيري (Duk.) *Vŭrdefrasioon* (Arab.) *Waluka* (Sans.) *Thick-leaved Lavender.*

LAVENDULA CARNOSA (Lin.).

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Verticillatæ. *Dick-lattriger Lavendel* (Nom. Triv. Willd.).

The fresh juice squeezed from the leaves of this biennial plant, mixed with pounded sugarcandy, the native practitioners prescribe in cases of cynanche; they also prepare with it, in conjunction with the juices of other herbs and gingilie oil, a cooling liniment for the head. The plant has nearly the same character in taste and smell with others of the genus; the essentials of which genus are, according to Willdenow, "*Cal.* ovatus, subdentatus, bractea suffultus; *cor.* resupinata; *stamina* intra tubum." *Spec. Plant.* tom. iii. p. 60.

Kœnig found the plant in question growing in rocky places near Sadras; and Rheede * in sandy situations in Malabar; where it is called *katu-kurka*; the *stems* are quadrangular, with the angles rounded, scarcely pubescent; *leaves* veined, very finely pubescent, deciduous in the time of flowering, on petioles, the length of the leaves; they are ovate, cordate, serrate, fleshy; *spikes* four cornered; *calyxes*

* See Rheede, Mal. x. p. 179. t. 90.

recurved. Dr. Heyne, in his "Tracts Historical and Statistical on India *," informs us, that the Sanscrit name of this plant is *Wāluka*, and that the Telingoos of Mysore call it *kuruwehlu*, but he says, that he had not well examined it. It is the *gal-kappra-walli* of the Cyngalese.

The Tamool name *karpoorawullie* is also bestowed on the *common borage* (borago officinalis), which is cultivated by Europeans in their gardens, chiefly for throwing into country beer, to give it a pleasant flavour.

Our article and the species spica grow in Ceylon; see Moon's Catalogue of Ceylon Plants, p. 44.

CXXXI.

KARRUWA PUTTAY கருவாபட்டை (Tam.) *Cinnamon.*

LAURUS CINNAMOMUM (Lin.).

This is much used in medicine by the Hindoos, as noticed already, in the first volume, under the article *Cinnamon.* The Arabians of Egypt hold it almost in veneration, and call it قرفه سيلانيه, distinguishing it from the cassia lignea, which they term سليخه.

CXXXII.

KATSJULA KELENGU (Tam.) *Chundra moola* (Beng.) *Húmúlā* (Beng.) also *Chŭndra-*

* See the work, p. 130.

moola (Beng.) *Thien-lien* (Cochin-China). *Chūndra moolika* (Sans.).

KÆMPFERIA GALANGA (Lin.).

Cl. and Ord. Monandria Monogynia. Nat. Ord. Scitamineæ. *Sitzende Kæmpferie* (Nom. Triv. Willd.).

The species * in question is a native of the Malabar coast, and also of the mountains near Chittagong. It has leaves sessile, round, ovate, cordate; the root is biennial, tuberous, with fleshy fibres; no stem. The roots have a pleasant fragrant smell, and warm, bitterish, aromatic taste; and are used medicinally, and as a perfume, by the Hindoos.

CXXXIII.

KAUNDUM கஸ்தூரி (Tam.) *Chémúk puttir* چمک پتھر † (Hind. and Duk.) *Magnet*, or *Magnetic Iron Stone* (Kirwin). *Huzéré méknates kauntum* (Tel. also Sans.).

The *Vytians* suppose this stone to possess tonic and deobstruent qualities; and prescribe the powder of it, in conjunction with aromatics and sulphur, in cases of consumption and dropsy. The dose a gold fanam weight of the powder twice daily, that is, about five grains.

* See Flora Indica, vol. i. pp. 14, 15. Besides our article, four other species of this genus grow in the botanical garden of Calcutta. The species in question is cultivated in Ceylon, and is there called in Cyngalese *hinguru-piyali*. (Moon, p. 2.); see also Rheede, Mal. (ii. t. 41.) The species rotunda, the Cyngalese call *sau-kenda*. Moon, (p. 2.); see also Rheede, Mal. (ii. t. 9.)

† Also called in Tamool *oosie kaundum*.

I have already noticed, under the head of iron, that the *magnetic iron-stone* was discovered in Mysore by Captain Arthur. I believe in general he found it of an iron black colour, inclining to grey. I am not aware, that any of it has as yet been analysed. Dr. Jameson * informs us, that Dr. Thompson analysed a specimen of this ore, which was brought from Greenland, and which was found to contain besides the iron, a small portion of *titanium*. The author just quoted observes, that when pure, magnetic iron-stone ore affords excellent bar-iron, but indifferent cast-iron; and as it is easily fusible, requires but little flux. It is sometimes intermixed with copper or iron pyrites; such affords a red-shot iron, sulphur never failing to deteriorate iron; but careful roasting diminishes the bad effects of the sulphur. In addition to the different places in which the magnetic iron-stone occurs, it may be added, that it is found in Ava, and in Armenia. †

CXXXIV.

KHAWAN-PICAN (Siam.).

This is a root which Dr. Finlayson found in Siam, and which, he was informed, possessed aperient, expectorant, and resolvent qualities.

* See Jameson's Mineralogy, vol. iii. p. 227.

† See Macdonald Kinneir's Geographical Memoir of Persia, p. 319.

CXXXV.

KHA-PHAIM (Siam.).

Name of a root which Dr. Finlayson found in Siam, and which he was informed was administered in decoction in lumbago, in conjunction with cardamoms.

CXXXVI.

KHUZ NIBIL ALFIE خز نبل الفي (Arab.).

Khuz nibil alfie, is the name of a root common in several parts of Arabia, and which the natives of that country are in the habit of taking in cases of colic (see Forskahl's Materia Med. Kahirina). What it is, may be desirable to know.

CXXXVII.

KHURISH CHURIN كرش چرن (Hind.) *Barbadoes Flower fence.*

POINCIANA PULCHERRIMA (Lin.).

This is the Hindoostanie name of a medicinal plant, in great repute, I understand, in the upper provinces of Hindoostan, and which is known to be the *poinciana pulcherrima* (Lin.), a genus now removed to the genus *cæsalpinia* by Swartz; what are its particular properties, I know not; I merely give

it a place here, that it may become subject to future inquiry. Browne, in his Natural History of Jamaica, says, that all parts of the plant are powerfully emmenagogue (Hort. Jamaicensis, vol. ii. p. 51-52.).

The essential character of the genus, is "*Cal.* five-parted, the lowest segment longer, and slightly arched; *stam.* woolly at the base; *petals* 5; *legume* compressed." The class and order are, Decandria Monogynia, and Nat. Ord. Lomentaceæ.

The species in question is a most beautiful tree, which commonly rises to about twelve or fourteen feet high, with *leaves* doubly pinnate, and *leaflets* oblong-oval, emarginate; they and the *calyxes* smooth; *corymbs* simple; *petals* fringed; *stamens* very long. It would appear to be a native of both the Indies; it is the *hoa-phung* of the Cochin-Chinese: on the Malabar coast it is called *tsietti mandāru;* in Ceylon, its common name is *monara-mal;* and from its extreme * beauty, Burmann † gave it the appellation of "*crista pavonis flore elegantissimo variegato.*" The French in the West Indies call it *fleur de paradis.* The flowers come out in loose spikes at the extremity of the branches; the petals, which have an agreeable odour, are beautifully variegated with a deep red or orange-colour, yellow, and some spots of green. Our article with another species, the *poinciana elata*, grows in the botanical garden of Calcutta, introduced in 1792 and 1799; the last time by Dr. Berry. Moon has two distinct varieties, the *ratu* and *kaha*, or red and yellow (Cat. p. 34.).

* Rheede, Mal. v., vi., p. 1. t. 1.
† See his Thesaurus Zeylonicus, 79.

CXXXVIII.

KEBIR كبر (Pers.) *Capers.*

CAPPARIS SPINOSA (Lin.).

Cl. and Ord. Polyandria Monogynia. Nat. Ord. Capparides, Juss.

Capers do not grow in India: they are well known to be the flower-buds of the bush, and make an excellent pickle. The root of the plant is a medicine amongst the Arabs, who get it from the Levant: the Persians call it بیخ کبر, the Arabians اصل الاصف. They consider it as having virtues, applied externally to malignant ulcers. Of the same root, I perceive Avicenna says, "attenuat, purgat aperit." See Canon. Med. lib. ii. tract. ii. p. 169.

CXXXIX.

KILANELLY கிளாநேலி (Tam.) *Sada-hazar-muni* (Beng.) *Nela ooshirikeh* (Tel.) *Booien aonlah* بھیں اونلہ (Duk.) *Pita-wakka* (Cyng.) *Boovishirum* (Sans.) also *Arjata* (Sans.) *Annual Indian Phyllanthus.*

PHYLANTHUS NIRURI (Lin.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Tricoccæ. *Weisser Phyllanthus* (Nom. Triv. Willd.).

The white root, small bitter leaves, and tender shoots, of this low growing plant, are all used in medicine by the Indian practitioners, who consider

them as deobstruent, diuretic, and healing; the two first are commonly prescribed in powder or decoction, in cases of an over-secreted acrid bile, and in jaundice; an infusion of the latter, together with vendeum * seed, is supposed to be a valuable medicine in chronic dysentery; the leaves, from their bitterness, are a good stomachic; the dose of the powder is about a tea-spoonful in any simple vehicle.

Of the essential character, Willdenow says,

Masculi. *Cal.* 6-partitus; *cor.* 0; *filament.* columnare; *anth.* 3.

Feminei. *Cal.* 6-partitus; *cor.* 0; *nect.* margo 12-angulatus; styli 3; *caps.* tricocca (*Spec. Plant. vol.* iv. *p.* 573.).

The species under consideration is indigenous in India, and is an erect annual plant; it has a *stalk* not more than a foot and a half high, with small alternate elliptic-obtuse leaves; the *flowers*, which are on very short peduncles, are produced on the under side of the *leaves*, along the midrib; and the *seeds*, when perfectly ripe, are thrown from the capsule with considerable force. The plant is a native of the West Indies and Japan, as well as India. On the Malabar coast it is called *kirganeli* †; it is the *herba mœroris alba* of Rumph. Amb. 6. p. 41. t. 17. f. 1., and the *nemuri* of the Japanese. Dr. Horsfield, in his account of Javanese Medicinal Plants, informs us, that the natives of Java consider it as diuretic, as well as its congener, *phyllanthus urinaria*, a plant which is also common on the Malabar coast, where it is called *tsieru-kirganeli*; it is the *herba mœroris rubra* of Rumphius,

* Seed of the trigonella fœnum græcum.

† Rheed. Mal. x. p. 29. t. 15.

and may be found described by Willdenow, in vol. iv. p. 584, of his Spec. Plant., with even more than his usual care.

Our article with many others of its genus, is growing in the botanical garden at Calcutta; ten species, according to Moon, grow in Ceylon (Cat. p. 65.). Effectual and useful diuretics are rare in all parts of the world. I perceive, by the "Vegetable Materia Medica of the United States," by Dr. Barton, that in America a strong infusion of the whole plant *chimaphilia umbellata*, to the extent of a pint in the twenty-four hours, is a valuable diuretic; though, by the experience that my excellent friend Dr. Somerville * had of it in the case of Sir James Craig, its good effects were not very lasting. Dr. Marcet found, it would seem, striking effects from the use of the extract in dropsical cases, in doses of fifteen grains.

CXL.

KILIOORUM PUTTAY கிளுவைப்பட்டை (Tam.) *Patanie lode* پٹانی لود *Kaiyphul* (Hind.) *Darshishan* (Arab.) *Soogundie* (Sans.) *Kilioorum Bark.*

This is a white, slightly aromatic, pleasant-tasted bark, found in many Indian bazars. It is held in high estimation by the native doctors, for its virtues as a stomachic, and bears a strong resemblance, in its

* See Dr. W. Somerville's account of the *chimaphilia umbellata*, in the Medico-Chirurgical Transactions of London, vol. v. p. 304. See also Dr. Barton's work, above mentioned, vol. i. pp. 24, 25, 26.

external appearance, to our *canella alba;* but is not nearly so warm or pungent. The botanical name of the tree from which it is obtained has not, I believe, been as yet ascertained. General Hardwick * saw the *kaiyphul* growing amongst the mountains, betwixt *Sirinagur* and *Hurdwar*, and places it in the class cryptogamia, and order filices; the red fruit of it, he adds, is much esteemed by the natives. The milky juice of the plant is escharotic, and is reckoned as a powerful application for removing warts, and other excrescences.

CXLI.

KIRENDINYAGUM கிரந்திணியகம (Tam.)
Grendie tagarum (Sans.) *Whorl-flowered Ruellia.*
Ruellia Strepens (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Rauschendie Ruellie* (Nom. Triv. Willd.).

The small, purple-coloured leaves of this low-growing plant are sub-acrid, and bitterish to the taste; when bruised and mixed with castor oil, they form a valuable application in cases of children's eruptions consequent of teething.

Of the essential character of the genus we are told, "*Cal.* 5-parted; *cor.* subcampanulate; *stam.* approximating by pairs; *caps.* opening by elastic teeth."

The plant in question seldom rises more than a foot high; the stem is four-cornered, with two longi-

* See Asiatic Researches, vol. vi. p. 380.

tudinal furrows, one on each side; the joints are three or four inches asunder, and, at each there are two oval leaves upon very short footstalks. Flowers axillary, two or three from the same point, sitting close to the stalk, very small, and, as already mentioned, of a purple colour; very fugacious, opening early, and gone by ten or eleven of the forenoon. Its specific name was given, from the crashing noise which the leaves make when handled. Willdenow tells us, that this species is also a native of Virginia and Carolina. It appears by *Forskahl* to have two Arabic names, kossif قصيف and ghobar غبار.

There is another species * of this genus, common at Java, and there called *kroknangsi;* the natives of that island reckon it amongst their diuretics. It is the *ruellia antipoda* of Lin.; Rumphius bestowed on it the name of *crusta ollæ,* and it may be found in *Rheed. Mal.,* under the name of *pectianga pulpanie* (9. 115. t. 59.). The species *tuberosa* † is a native of Jamaica; it is an herbaceous plant, sometimes made into an ointment by being boiled with suet.

CXLII.

KODIE PALAY (Tam.) *Nukchikne* نكچكني (Duk.) *Teet-conga* (Hind.) *Palay* (Tel.) *Madhumalati* (Sans.) *Twining Swallow-wort.*

ASCLEPIAS VOLUBILIS (Lin.).

* It appears, by the Hort. Beng., that fifteen species of ruellia are growing in the Company's botanical garden at Calcutta, almost all of which are natives of India. Our article, with five other species, grow in Ceylon (Moon's Catalogue, p. 46.).

† See Lunan's Hort. Jamaicensis, vol. ii. p. 192.

Cl. and Ord. Pentandria Digynia. Nat. Ord. Contortæ. *Rankende Schwalbenwurz* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "contorta; *nect.* 5. ovata concava, corniculum, exserentia." *Spec. Plant. tom.* i. *p.* 1262.

The plant in question, which is common in the woods of Malabar, rises with a tall, twining, arboreous stem, and smooth-shining branches; the *leaves* are petioled, sub-cordate, veined; *umbels* quite simple on peduncles, the length of the petiole; *flowers* greenish. The root and tender stalks are supposed by the *Vytians* to possess virtues in dropsical cases; they sicken, and excite expectoration; though I could not obtain much information of a certain nature respecting them; it is to be presumed, that they operate in a manner somewhat similar to the root of the *asclepias curassavica;* which, according to Browne, in his Natural History of Jamaica, the negroes use as a vomit. I have been informed, that the leaves of the *asclepias volubilis* are amongst those which are occasionally eaten as greens by the natives of Lower India; but I am doubtful of this, considering the general character of the genus. The plant is a native of Malabar and also of Ceylon.

Thirteen species of asclepias grow in the botanical garden of Calcutta. The Tellingoo name there given to our article is *doodi-palla* (see Hortus Bengalensis, p. 20.

CXLIII.

KODAGA SALEH (Tam.) *Sulunāyi* (Cyng.) Burm. Zeyl. t. 3. f. 2. *Creeping Justicia.*

JUSTICIA REPENS (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Gestreckte Justice* (Nom. Triv. Willd.).

Of the essentials of the genus, Miller says, "*Cor.* ringent; *caps.* two-celled, opening with an elastic claw; *stam.* with a single anther;" from which, however, Willdenow's description differs somewhat.

The plant under consideration is an herbaceous, diffuse, procumbent shrub; *leaves* subsessile, lanceolate; *spikes* axillary, terminating, comprised, and *bractes* ovate, white; *lower anthers* crescent-shaped.

Botanists, such as Herman, Burman, and Vahl, have given differing descriptions of the *justicia repens;* which may be seen, on referring to *Willdenow, Spec. Plant.* vol. i. p. 96, and Roxburgh's excellent Flora Indica, vol. i. p. 133. Miller compares its general appearance to that of the basil thyme, *thymus acinos*, and there is certainly also a degree of resemblance in the taste of the leaves; though most people compare the taste of those of our article to that of mustard-seed.

The native doctors bruise the leaves fresh, and mix them with castor oil; thereby preparing an application for *tinea capitis.* The plant is growing with many other species in the botanical garden of Calcutta. It is the *sulunayi* of the Cyngalese. See Burm. Zeyl. 7. t. 3. f. 2., where it is noticed under the name of adhatoda, spicata flosculos ex foliolis membranaceis producens.

CXLIV.

KOOLINGIE கொலஞ்சி (Tam.) *Surpunkha* (Beng.) also *Koolloo kavaylie* (Tam.) *Vaympalie* (Tel.) *Gam-pila* (Cyng.) *Poonkhie* (Sans.) *Purple Galega.*

GALEGA PURPUREA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Rothe Geisraute* (Nom. Triv. Willd.).

Of the essential character, Willdenow says, "*Cal.* dentibus subulatis, subæqualibus; *Legumen* striis obliquis, seminibus interjectis." *Spec. Plant.* iii. *p.* 1239.

The root of the galega purpurea the native practitioners prescribe in decoction in cases of *dyspepsia* and *tympanites.* It is a perennial plant, which seldom rises more than two feet high, with small pinnated leaves, and flowers narrower than the leaves, and of a purple colour, succeeded by slender, erect, stiff pods or legumes, of an inch and a half or two inches long. This plant has got the trivial name of wild indigo, from Europeans in India; it is also a native of Ceylon, and is called by Burman * *coronilla zelanica herbacea, flore purpurascente.* The plant is growing in the botanical garden of Calcutta, introduced, it would appear, from the Hort. Bengalensis, in 1799. (See p. 57.)

* Burm. Zeyl. 77. t. 33.

CXLV.

KOLUNG KOVAY KALUNG கொலுங்கோவைக்காலுங்கு (Tam.) *Akasaghéroodā gudda* (Tel.) *Rawkus gudda* راکس گڈّہ (Duk.) *Air-living Bryony.*

BRYONIA EPIGÆA (Rottler)

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ Saftige. *Zaunrube* (Nom. Triv. Willd.).

This root, as it appears in the bazars, is of varying thickness and length; in shape somewhat like an English garden turnip, but more pointed at top; it has a bitterish, mucilaginous, subacid taste, and is partially marked on the outside with whitish raised circular rings; it is chiefly used as an external application, in conjunction with *siragum seeds* (cummin seed), onions, and castor-oil, thereby forming a kind of liniment, for chronic rheumatism and contracted joints; it is also considered as anthelmintic and deobstruent, alterative and gently aperient, when given internally. The *Vytians* hold it in great estimation,* and also prescribe it in the latter stages of dysentery and old venereal complaints. It is usually administered in powder, which is of a very pale colour, in doses of a pagoda weight in the twenty-four hours, and continued for eight or ten days together; this quantity generally produces one or two loose motions. The root, when dried, very much resembles the columbo root, to which it approaches also in medicinal qualities. In Persian the plant is called لوفا *loofa;* in Arabic *azănulfeel* ازنلفیل. The

* It certainly possesses virtues worthy of more definite investigation; and, as such, I here call the attention of my brethren in India particularly to it.

root of it not only *lives* in the air, without water, but actually grows in it, and sends forth shoots, and hence its Tellingoo name.

The essential character of the genus is thus given by Willdenow:

"MASCULI. *Cal.* 5-dentatus; *cor.* 5-partita; *filam* 3.

"FEMINEI. *Cal.* 5-dentatus; *cor.* 5-partita; *stylus* 3-fidus; *bacca* subglobosa, polysperma." (Spec. Plant. tom. iv. p. 616.)

Of the species in question the best account has been written by Dr. Rottler, of Madras*, who says, "The leaves are somewhat fleshy, cordate, trilobate, dentate, rough; the lateral lobes sub-bilobate. The flowers in a raceme: male flowers five, small; female flower single, pedunculate, proceeding from the same axilla as the male flowers." It is a native of the Coromandel coast.

Four species of *bryonia* are growing in the botanical garden of Calcutta. The species *gabrella* and *garcini* are called in Hindoostanie and Tellingoo *agumukee* and *gheedi-moraloo*. Six species of bryonia, by Moon's account, are natives of Ceylon (Catalogue, p. 67.).

CXLVI.

KONDOSHONAY KALUNG கொணடோ சனகக்ழங்கு (Tam.)

This is a sweet-smelling, yellowish-coloured root, with which the natives prepare a fragrant liniment for the head.

I have not been able to ascertain the plant of which it is the root.

* In his Herbarium, MSS.

CXLVII.

KOOLIMITAN (Tam.) *Rough* or *Hairy Basil.*
OCIMUM HIRSUTUM (Rottler).

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Verticillatæ.

The whole of this low-growing plant, called by the Tamools *koolimitan*, is sweet-smelling, and, to a certain degree, aromatic; it is prescribed, by the Hindoo practitioners, in the form of decoction, in those bowel complaints that children have occasionally during dentition.

The essentials of the genus have been mentioned in speaking of *cunjam koray*, in this section. The *flowers* of the species in question are small, and in whorls, forming a loose spike; the *leaves* opposite, and, like the other species, it has "corollæ resupinatæ alterum labium 4-fidum; alterum indivisum." The *ocimum hirsutum* was first scientifically described by Dr. Rottler*, and is a native of the Coromandel coast. The species tuberosum is a native of Java, and is there called *kentang dohawa*, and placed amongst the tonic medicines.

Eleven species of ocimum are growing in the botanical garden of Calcutta, mostly all of which are natives of different parts of India, and for which the almost universal Indian generic name is *toolshee*, or *toolasee*. See Hort. Bengalensis, pp. 44, 45.

* Of it he says in his Herbarium (MSS.), "*Caul* suffruticos, angulat. ramos. hirsutissimo; *fol.* breviter, petiolat. ovat. crenat. subtus venos. hirsut.; subviscidis florib. racemos. terminatib. verticill. sexfloris, corollarum labio superiore emarginato inferiore tripartito."

CXLVIII.

KOOPAMAYNIE கூபமேனி (Tam.) *Kooppie ké jurr* كوپي كي جر (Duk.) *Shwet-busunta* (Beng.) *Koopamenya* (Cyng.) *Wæl-kupameniya* (Cyng.) *Arittamunjayrie* (Sans.) *Indian Acalypha.*

ACALYPHA INDICA (Lin.).

Cl. and Ord. Monœcia Monadelphia (Lin.). Nat. Ord. Tricoccæ. *Indisches Brenkraut* (Nom. Triv. Willd.).

The root, leaves, and tender shoots of this plant, are all used in medicine by the Hindoos. The powder of the dry leaves is given to children in worm cases, as also a decoction of them with the addition of a little garlic. The juice of the same part of the plant, together with that of the tender shoots, is occasionally mixed with a small portion of margosa oil, and rubbed on the tongues of infants for the purpose of sickening them and clearing their stomachs of viscid phlegm. The *Hakeems* prescribe the koopamaynie in consumption. It would appear from Rheede's account of this plant, that, on the Malabar coast, the root is supposed to have a purgative quality; his words are, "Radix trita, et cum aqua calida assumpta, cathartica est folia trita et cum aqua epota ventrem laxant; illorum decoctum auribus immissum mitigat dolorem*;" he calls it *cupaméni.*

* Hort. Mal. x. p. 161. t. 81.

Of the essential character, Willdenow says,

"MASCULI. *Cal.* 3; s. 4-phillus; *cor.* 0; *stam.* 8 — 16.

"FEMINEI. *Cal.* 3-phillus; *cor.* 0; *styli* 3; *caps.* 3-cocca, 3-locularis; *sem.* 1."

The plant in question is an annual, seldom rising higher than a foot and a half, with an herbaceous stem. The best description of it appears to be Willdenow's: "Spicis axillaribus superne masculis inferne feminis, involucris glabriusculis serratis, foliis ovatis acuminatis serratis basi cuneatis."* Herman†, in his Flora Zeylonica, says, "That the female *involucres* are heart-shaped and slightly notched; *leaves* ovate, shorter than the petiole." The plant is a native, by Dr. Houstoun's account, of La Vera Cruz. On the Coromandel coast the Tellingoos call it *kuppy;* another Sanscrit name, in addition to that already given, is *manshinka,* according to Dr. Heyne (Tracts on India, p. 132.). The dose of the powder of the dry leaves is about a scruple and a half, or two scruples, to be taken in a little syrup and water.

Seven species of acalypha are growing in the botanical garden of Calcutta, two of which are natives of India.

CXLIX.

KORAY KALUNG கோரைகிழங்கு (Tam.) *Nagur motha* ناگر موٹھ (Duk.) *Toonga gudda* (Tel.) *Sādcoofie* (Arab.) *Musta* मुस्ता (Sans.) *Root of the Rush-leaved Cyperus.*

CYPERUS JUNCIFOLIUS (Rottler.).

* Spec. Plant. tom. iv. p. 523.
† See Flora Zeyl. 341.

Triandria Monogynia. Nat. Ord. Calamariæ.

This fibrous root, with its small sweet-smelling bulbous extremities, is supposed by the Hindoo practitioners to have diaphoretic virtues; and also to act as a diuretic; they recommend them in decoction in fevers, and where there is a tendency to dropsy; in the quantity of half a tea-cupful twice daily.

Of the essential character of the genus, it has been said, "*Glumes* chaffy, imbricate in two rows; *corol.* none; seed one, naked."

With regard to the species under consideration, I must here state, that I never saw the plant, but have given its scientific name, on the authority of my much respected friend Dr. Rottler; I do not see it, however, mentioned by Willdenow. It becomes a question, whether it may not be the same species to which Roxburgh has given the specific name of *pertenuis* *, the Bengalese name of which is the same as our Dukhanie one, viz, *nagur mootha*, or *motha*.

It has like it a tuberous root, with many dark villous fibres. The root of the *cyp. junc.*, is sometimes confounded with that of the *cyperus rotundus* (Lin.), and the same Sanscrit name is given to both; though from the shape of the leaves of the first-mentioned species, it would rather appear to approach to the *cyperus spathaceus*, a native of Virginia, and which Plukenett describes, "Gramen *junceum*, elatius, &c. (Alm. Bot. 179. t. 301. f. i.).†

The species *articulatus* is a native of Jamaica, the

* See Flora Indica, Roxb. vol. i. p. 202.

† Twenty-five species of cyperus are growing in the botanical garden of Calcutta; and, it would appear, by the Flora Indica, that Dr. Roxburgh notices many others that had not been brought into the garden in 1814. See Flor. Indica. Twelve species are noticed by Moon as growing in Ceylon (Catalogue of Ceylon Plants, p. 6.).

roots have a very pleasant odour, and are considered as cordial and cephalic; Dancer* says, that they may be used as a substitute for the Virginian snake-root. See Lunan's Hortus Jamaicensis (vol. i. p. 8.).†

CL.

KOROSHANUM கோரோசனம் (Tam.) *Ghyroon* گايي،ون (Duk.) *Goroshanum* (Tel.) *Hejr-ul-buckir* حجرالبقر (Arab.) *Gawzereh* گاوزهره (Pers.) *Gōrōchanā* गोरोचना (Sans.) *Biliary Calculus of a Cow* or *Ox.*

Calculus Cysticus (Bovis).

Koroshanum, is the Tamool name given to those biliary concretions, occasionally found in the gall-bladder of cows or oxen in India; they are generally contained in a little bag, which holds two or three small ones, each about the size of a tamarind stone, or one large one, as big as a large marble. They are of a bright-yellow colour, and are considered by the native practitioners as highly valuable in certain indispositions of young children, accompanied with acidity and a deficiency of bile; they are besides reckoned cordial and alexipharmic. A piece about the size of a mustard seed, is commonly given for a dose to a babe of two months old, in conjunction with an infusion of cumin seed. This substance is also employed in conjunction with the chebulic my-

* See his Medical Assistant, p. 387.

† I understand from General Hardwicke, that the *cyperus rotundus* is considered, in Bengal, as febrifuge and stomachic; and that the tuberous roots, bruised and mixed with water, are given in cholera morbus. The species *pertenuis*, he tells me, the Indian ladies use as a cosmetic, and for scouring their hair.

robolan (*kadukāi*, Tam.), and *galls* (*machakai*); in preparing a mixture for cleansing the inside of the mouths of new-born infants. The *Vytians* prescribe a solution of it in warm ghee, to be poured up the nose in cases of head-ache; and administer it sometimes in *doshum* (typhus fever), made into a draught with woman's milk.

This substance is also prepared from the urine of a cow, and is much used in India as a pigment.

CLI.

KORAS or KRASTULUNG (Javanese).
CHLORANTHUS SPICATUS (Horsfield).

Tetrandria Monogynia. Nat. Ord. Aggregatæ.

The leaves of this plant have an odour, resembling that of snake-root, and an infusion of them, Dr. Horsfield tells us, in his Account of Java Medicinal Plants, is considered as corroborant. I believe it to be the plant mentioned by Loureiro, under the name of creodus odoriferus, and the *hoa-soi* of the Cochin-Chinese. See Flor. Coch. Chin. (vol. i. p. 89.)

CLII.

KOSTUM கோஷ்டம் (Tam.) *Changala kŏstam* (Tel.) *Kust* قسط (Arab.) *Goda mahanel* (Cyng.) *Sepuddy* (Malay). also *Putchuk* (Tam.) *Kushtam* कुष्ठं (Sans.) *Arabian Costus.*
COSTUS ARABICUS (Lin.).

Cl. and Ord. Monandria Monogynia. Nat. Ord. Scitamineæ. *Glatte Costwurz* (Nom. Triv. Willd.).

An infusion of the pleasant smelling, and somewhat warm, but singular tasted, and knotty root of this plant, is prescribed by the native practitioners, as a stomachic and tonic; and is given in the advanced stages of typhus fever, to the quantity of three or four ounces or more twice daily. Judging from the root, the plant would appear to differ from that described in the 11th volume of the Asiatic Researches, p. 349. What of it * is found in the Indian bazars, I am inclined to think is brought from Persia and Sumatra. See Marsden's Sumatra, p. 75.

Of the essential character of the genus, Willdenow says, "*Cal.* 3-fidus gibbus; *cor.* 3-partita, ringens; *nectar.* 2-labiatum: labio inferiore maximo 3-lobo." *Spec. Plant.* i. p. 10. The species in question, he tells us, is a native of South America, and distinguishes it from the *costus spicatus*, by the latter having *spica multiflora subovata*, the other *spica pauciflora*. The only species of this genus growing in India, as far as I know, is the *costus speciosus;* and which would appear, by what Willdenow says, to be the plant described so circumstantially by *Jacquin*, in his *Collectanea ad Botanicam*, under the name of *costus Arabicus;* a particular account of it may be seen in the Flora Indica of Roxburgh (vol. i. p. 57.). It is the *tjana-kua* of Rheede, and the *herba spiralis hirsuta* of Rumphius (Amb. vi. p. 143. t. 64. f. i.); its Sanscrit name is *kemooka;* the Hindoos of Upper

* The costus Arabicus is now but little employed in medicine, in Europe; formerly, there were two sorts prescribed, the bitter and the sweet; the first is common in the higher provinces of India, called in Arabic قسط هندي, and in Persian قسط تلخ, though Mr. Gray, in his Supplement to the Pharmacopœias, says, the bitter is merely the plant becoming bitter and strong by age.

India call it *keoo*. It is one of the most beautiful plants of the natural order to which it belongs, with subsessile leaves spirally arranged, oblong, cuspidate, villous underneath; its root, however, is insipid, so far not resembling our article; the natives prepare a kind of preserve with it, which Roxburgh says, they deem very wholesome; he adds, that the dry root has not at all the appearance of the *costus Arabicus* of the shops, which, by the way, is no longer admitted into the London Dispensatory. The Arabians place *kust** قسط amongst their Mobheiat مبهيات Aphrodisiacs.

The *costus speciosus* (Lin.) is growing in the botanical garden of Calcutta; and is, by Moon's account, a native of Ceylon, and there called *tebu-gas*. Brown, in his History of Jamaica, terms our article the lesser amomum with a foliated stalk: he says, it is found every where in the woods of Jamaica, and that the root is a substitute for ginger, but very inferior to it. (See Hortus Jamaic. vol. ii. p. 281.)

CLIII.

KOTTANG KARUNDEI கொட்டங்கரந்தை (Tam.) *Moondie* مندي (Duk.) *Dookkoo* دقّو (Arab.) *Chagul-nadi* (Beng.) *Bodatarum* (Tel.) *Æt-muda-mahana* (Cyng.) *Mundi* मुण्डि (Sans.) *Indian Sphæranthus.*

SPHÆRANTHUS INDICUS (Lin.).

Cl. and Ord. Syngenesia Segregata. Nat. Ord. Compositæ Capitatæ. *Indische Kugelblume* (Nom. Triv. Willd.).

* See Ulfaz Udwiyeh, Introduction.

The small oblong seeds are of a brown colour, with delicate whitish bristles scattered over them; they, as well as the receptacles, are reckoned by the Indians amongst their Anthelmintics, and are prescribed in powder. Rheede *, who speaks of this plant under the name of *adaca manier*, tells us, that the powder of the root is considered as stomachic; and that the bark ground small and mixed with whey, is a valuable remedy for the piles. The plant is a native of Lower India, on both coasts; also of Ceylon, of the islands of the Indian Archipelago, and of Egypt. Burman †, calls it *sphæranthus purpurea*, alata serrata. Forskahl (Egypt. p. 154. R.) speaks of it under the name of *polycephalos*, and Dr. Horsfield, in his Account of Javanese Medicinal Plants, informs us, that the inhabitants of Java consider it as a useful diuretic.

Of the essential character, Willdenow says, "*Cal.* 8-flori; *cor.* tubulosæ hermaphroditæ et obsolete femineæ; *recept.* squamosum; *pappus* nullus." *Spec. Plant.* (tom. iii. p. 2394.)

The species in question is a low growing plant, not more than a foot and a half high, with an herbaceous stem; leaves decurrent, lanceolate, serrate, of a deep green colour, alternate, and about three inches long; peduncles curled; flowers a purplish red, solitary, terminating and sub-globular (Miller). The dose of the powder in India, as an anthelmintic is about a scruple and a half or a scruple twice daily; though more, I understand, is sometimes given ‡,

* Hort. Mal. x. p. 85. t. 43.

† Burm. Zeyl. t. 94. f. 3.

‡ The sphæranthus Indicus is growing in the botanical garden at Calcutta, introduced, it would appear, by Dr. W. Carey. See Hort. Bengalensis, p. 62. The species *Cochin-Chinensis* is the *co-bo-xit* of Loureiro, who tells us, that the whole herb is used in Cochin-China for preparing a cataplasm for resolving tumours in the breast.

CLIV.

KUTTALAY கத்தாழை or *Sirrooghoo kuttalay* (Tam.) *Chota kunwar ka putta* چھوٹا کنوار کا پتہ (Duk.) *Vurdisibbir* (Arab.) *Chini kala bunda* (Tel.) *Kumārī* कुमारी (Sans.) *Sea-side*, or *Small Aloe.*

ALOE LITTORALIS (Kœnig).
A. PERFOLIATA (Var.)?

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Liliaceæ.

The pulp of the leaves of this small and very succulent aloe, when well washed in cold water, is prescribed as a refregirant medicine, in conjunction with a small quantity of sugar candy. The same pulp, so purified, and with the addition of a little burnt alum, the native practitioners consider as a valuable remedy in cases of ophthalmia; they are put into a piece of fine muslin cloth, which is applied frequently to the eyes, the pain of which is relieved by their coldness and freshness. The second Tamool name *sirrooghoo kuttalay*, is the proper one, the other being usually bestowed on the *aloe perfoliata.*

Of the essential character, Willdenow says, "*Cor.* erecta, ore patulo, fundo nectarifero; *filam.* receptaculo inserta." *Spec. Plant.* (tom. ii. p. 184.)

The species in question was first particularly noticed by Kœnig, growing in situations near the sea; but Dr. Rottler believes it to be only a variety of the aloe perfoliata, mentioned in the first chapter of this work, under the head of Aloe; it is particu-

larly to be distinguished by its small or rather narrow leaves, which are peculiarly succulent.*

CLV.

KULL PASHIE கல்பாசி (Tam.) *Puttir ka pool* پتھر کا پھول (Duk.) *Hinnāey koreish* (Arab.) *Ratipanchie* (Tel.) *Rounded Lichen.*

LICHEN ROTUNDATUS (Rottler).

Cl. and Ord. Cryptogamia Lichen. Nat. Ord. Algæ.

Kull-pashie is the Tamool name given to a dried pale-coloured rock moss, which the *Vytians* suppose to possess a peculiar cooling quality, and prepare with it a liniment for the head; it was first scientifically described by Rottler. †

The generic character of the lichens is, according to Miller *male flowers?* *Vesicles* conglomerated, extremely small, crowded or scattered on the disk, margin, or tips of the fronds.

"*Female flowers?* on the same, or on a distinct plant; *receptacle* roundish, flattish, convex (*tubercle*), concave (*scutella*); subrevolute, affixed to the margin (*pelta*), often differing from the frond in colour, within containing the seeds disposed in rows."

Dr. Stokes ‡ of the generic character, says simply; "Receptacle orbicular and globose."

* By Moon's account, two species of aloe grow in Ceylon, the *vulgaris* and *picta*, and two species of agave, the *Americana* and *lurida;* the two last are American plants. See his Catalogue of Ceylon Plants, p. 25.

† Of it Rottler says, in his Herbarium (MSS.), "Imbricatus, foliaceus, cinereus foliolis decumbentibus, laciniis."

‡ See his Botanical Materia Medica, vol. iv. p. 618.

The species of this genus are extremely numerous; Dr. Withering has enumerated no fewer than two hundred and sixteen species besides varieties, many of which are of use in dyeing. The only one admitted into the London Dispensatory, is the *lichen islandicus*, well described by Mr. Thomson, in his excellent third edition of the London Dispensatory, p. 364.

Of the two hundred and sixteen species above-mentioned, twenty are natives of Jamaica; many of the plants of this genus are useful in dyeing. With the lichen *calcareus*, when dried and powdered, the Welsh dye scarlet, and the colour is said to be very fine.

CLVI.

KRASTULANG (Jav.).

CHLORANTHUS SPICATUS.

Horsfield says, that the root of this plant resembles the seneka, and that the leaves are generally employed as a corroborant in Java.

CLVII.

LACK-BEET (Siam.).

Name of a capsule with its seeds; used by the Siamese in decoction, in cases of diarrhœa and weak digestion.

CLVIII.

LETCHICUTTAY ELLEY (Tam.) Quære?

This is the broad leaf of a large and most beautiful tree, a native of the deep woods on the Coromandel coast, which, when made warm and moistened with a little castor-oil, is reckoned a most efficacious application to joints affected with rheumatism; while young, the leaves are also said to be eaten. The Portuguese call them *folia de bunkood*, and prize them highly. I have never seen the tree, and understand from Dr. Rottler, that he had never been able to get a sight of the flower, nor does he believe that the plant has been hitherto scientifically described. Anxious, however, that as much as possible should be noticed in this work, which might lead to more minute investigation, I have given the article the place which it now holds; being convinced that it is better that many things be brought forward, although some of them may ultimately prove of little value, than that one should be omitted which might become a valuable acquisition to medicine.

CLIX.

LONTAS, also BOLONTAS (Javanese). *Indian Ploughman's Spikenard.*

BACCHARIS INDICA (Lin.).

Cl. and Ord. Syngenesia Superflua.

Lontas is the Javanese, as well as Malay name of a plant held in high estimation, in the islands of the Eastern Archipelago, as a safe and gently stimulating aromatic. It is, by Dr. Horsfield's* account, generally employed in Java for preparing baths and fomentations; he adds, that it forms an ingredient in the mixtures which are employed by the natives in various diseases.

Of the essential character of the genus, Willdenow says, "*Recept.* nudum; *pappus* pilosus; *calyx* imbricatus, cylindricus; *flosculi* feminei hermaphroditus immixti" (Spec. Plant. tom. iii. p. 1913.).

The species under consideration is distinguished by having *branches* with raised streaks; smooth, obovate, toothletted, petioled leaves; a *corymb* large and terminating; *peduncles* angular, with some awl-shaped bractes; *calyxes* cylindrical and smooth; it is a native also of Ceylon† and the Cape of Good Hope, and got the German name of *ostindische baccharis* from Willdenow. Three species grow in Cochin-China; the species salvia, which is there called *cay-dai-bi*, Loureiro says, has stomachic and tonic virtues. Vide Flora Cochin-Chin. vol. ii. p. 494.

CLX.

LOPEZKA JAAR لوپزکا جهار (Duk.).

RADIX INDICA LOPEZINA.

Lopez is the Dukhanie name of a root which is,

* See Dr. Horsfield's account of medicinal plants of Java, in the Asiatic Journal for March 1819, p. 262.

† Moon does not, however, give us its Cyngalese name (Catalogue, p. 58.).

I understand, sometimes to be met with at Goa and other places on the Malabar coast, but whether it is an Indian produce or not, I cannot say. I have never been able to get a sight of it, but understand, that though neither the bark nor wood of the root has any sensible smell or taste, it is supposed to have virtues in colliquative diarrhœas, and in the last stages of consumptions. Gaubius describes it, and compares its action to that of the simarouba.

CLXI.

LUFFA ABUNAFA لغا ابو نافاع (Arab.).

This is the Arabic name of an aphrodisiac root, mentioned by Forskahl, in his Materia Medica Kahirina; it does not appear to have been hitherto exactly ascertained what it is.

CLXII.

MADANAKAMEH POO (Tam.) *Flowers of the Madanakāméh.*

This is the Tamool name given to the *dried* capsules and flowers obtained from a tree which grows in the Mission garden of Tranquebar, and which, in its leaves, much resembles the date tree. I never saw the mandanakameh, nor heard it described. I understand that the flowers are used in medicine by the Hindoos. They are merely mentioned here that they may lead to further inquiry.

CLXIII.

MADALUM VAYR மாதளவாழைச் (Tam.)
Root of the Pomegranate tree.
PUNICA GRANATUM (Lin.).

Cl. and Ord. Icosandria Monogynia. Nat. Ord. Pomaceæ. *Gemein Granate* (Nom. Triv. Willd.).

The efficacy of the bark of the root of the pomegranate tree*, as a remedy for the tape-worm, is now well established in India. It is given in decoction prepared with two ounces of the fresh bark, boiled in a pint and a half of water, till but three quarters of a pint remain; of this, when cold, a wine-glassful may be drank every half-hour till the whole is taken. This quantity occasionally sickens the stomach a little, but seldom fails to destroy the worm, which is soon after passed.

Of the essential character of this genus, of which there are but two species, Willdenow says, "*Cal.* 5-fidus, superus; *petala* 5; *pomum* multiculare, polyspermum." Spec. Plant. tom. ii. p. 981.

The species in question, the Sanscrit name of which is *dadima-dalim* (Beng.), rises to the height of from 10 to 18 feet or more, with an arboreous stem; *leaves* opposite, narrow, lanceolate, about three inches long, and half an inch broad at the middle, drawing to a point at each end; *flowers* sessile, coming out at the end of the branches; the *fruit* is well-known, and is noticed in other parts of this work. I shall

* Is the *sakuro* of the Japanese, and the *cay-thach-luu* of the Cochin-Chinese. Vide Flor. Japon. p. 199, et Flor. Cochin-Chin. vol. i. p. 313.

merely here state, that the rind of the fruit and flowers, which have been called *balaustine* flowers, are powerful astringents; and have long been used both internally and externally in gargles*, diarrhœa, &c.; dose in substance from half a drachm to a drachm; infusion or decoction half an ounce. The plant is a native of the South of Europe, and of many Eastern countries. The other species is *pun. nana* (Lin.) or dwarf pomegranate tree; it has fruit not longer than a nutmeg, and with but little flavour. It is a native of the Antilles. Miller, in his Botanical Dictionary, mentions four varieties of the punica granatum: two varieties have double flowers of a beautiful red, for which they are much prized in India, and, by way of distinction, have got the Hindoostanie name of gool-anar. The pomegranate tree was introduced into India from Persia some time before 1791: it is called *anar* انار in that country, and رمان in Arabia. The Cyngalese bestow on the tree the name of *delun*.

CLXIV.

MAJUM மாஜம் (Tam.) *Mājoom* ماجوم (Duk.), also *Mājoom* (Sans.) *Madjoon* (Turkish).

These are names of an electuary which is much used by the Mahometans, particularly the more dissolute, who take it to intoxicate and ease pain—the chief ingredients employed in making it are, *ganja*† leaves (cannabis saliva), milk, ghee, poppy seeds, flowers of the thorn-apple, the powder of the nux

* See Woodville's Medical Botany.
† See article Ganja, in this section.

vomica, and sugar—an overdose of it has been known to bring on a total derangement of intellect. See article *Banghie* in this Chapter, and *Subjah* in another part of this work. *Madjoon*, besides being the Turkish name for an inebriating preparation made with opium, is also often bestowed by the Turks on opium itself, which, by the way, is much less indulged in now than it was some years ago at Constantinople. See Anastasius, vol. i. p. 233.

CLXV.

MADOOCARE PUTTAY மதுகரபட்டை (Tam.) *Maducare Bark.*

WEBERA TETRANDRA (Var.).

Cl. and Ord. Pentandria Monogynia.

The young shoots of this plant, as also the bark, the *Vytians* prescribe in the latter stages of dysentery. See article Caray Cheddie in this Chapter.

CLXVI.

MAGHALI KALUNG (Tam.) *Māméná* (Tel.) *Purdanika* (Sans.) *Maghali Root.*

This root, which I have never seen, is said to be of a reddish brown colour outside, and white within. In its fresh state it is made into pickle. A decoction of the dried root is given by the Hindoo doctors in certain méghums, *cachexies*, to the quantity of half a tea-cupful twice daily. I should not have given it a

place here, but that it is spoken of with much confidence by some of the most enlightened *Vytians*, with whom I have conversed; it is very scarce.

CLXVII.

MALLAM TODDALI (Mal.) *Gaedumba* (Cyng.) *Je-no-ki* (Japan.) *Oriental Nettle Tree.*

CELTIS ORIENTALIS (Lin.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Scabridæ.

*Mallam toddali** is the name given on the Malabar coast to this tree, which yields a gum which resembles much that of the cherry tree; it rises to about twelve or fourteen feet high, dividing into many branches, which spread horizontally; the leaves are obliquely cordate, serrate, villose underneath; the fruit is oval, and when ripe, yellow. It is a native of Japan, Ceylon, and the Society Isles, as well as India, and is the *papyrus spuria* of Kæmph., Amæn. (p. 474. t. 472.)

CLXVIII.

MALAYTANGHIE VAYR மலைதாங்கி வேர் also *Arrooa manoopoondoo* (Tam.) *Pata* (Sans.) *Root of the Lance-leaved Sida.*

SIDA LANCEOLATA (Retz.).

* See Rheede, Mal. iv. p. 85.

Cl. and Ord. Monadelphia Polyandria. Nat Ord. Colomniferæ. *Lanzettblattrige Sida* (Nom. Triv. Willd.).

This root, which is not unlike the common liquorice root, in appearance, is intensely bitter; and is prescribed in infusion, and in conjunction with ginger, in cases of intermittent fever; it is considered by the Hindoo practitioners as a valuable stomachic, and a useful remedy in chronic bowel complaints; the dose a small tea-cupful twice daily. The leaves made warm, and moistened with a little gingilie oil, are employed to hasten suppuration.

Of the essential character, Willdenow says, "*Cal.* simplex, angulatus; *stylus* multipartitus; *caps.* plures, mono-seu trispermæ." Spec. Plant. (tom. iii. p. 734.)

The species in question is an annual plant, which rises with an erect stem; and is a native of some of the lower tracts of India as well as the Mauritius and Ceylon.* Its specific distinctions are, *leaves* oblong-lanceolate, toothed, smoothish; *peduncles* axillary, solitary; *capsules* two-beaked; *stipules* linear, nerved, longer than the peduncle. The Telingas call it *visha boddee*. Five species grow in Cochin-China.†

Twelve species are natives of Jamaica, of which three are medicinal, viz. *althææfolia*, *rhombifolia*, and *Jamaicensis*. The flowers and tender buds of the first are used instead of marshmallow; the second is considered as diuretic; and the last is distinguished by its leaves and buds containing a kind of mu-

* Where, I think, it is called *hin-anoda*, though Moon gives it no Cyngalese name.

† Two of which, Loureiro says, are used medicinally, as emollients and resolvents; the sid. alnnifolia (*cay-bay-doung-tien*) and sida scoparia (*cay-bay-choi*). Flor. Cochin-Chin. vol. ii. p. 413.

cilage, which lathers like soap, and may be used as such. See Lunan's Hortus Jamaicensis, (vol. i. p. 493, 494, 495.)

CLXIX.

MANSIADI (Mal.) *Madathya-mara* (Cyng.).

These are names on the Malabar coast and on Ceylon *, for the *adenanthera pavonina* of Linnæus. It is the coralaria parviflora of Rumphius. The very large, doubly pinnate leaves are given in decoction for chronic rheumatism.

CLXX.

MANEERAM (Javanese, also Malay). *Eella* (Cyng.) *Woolly Callicarp.*

Callicappa Lanata (Willd.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Dumosæ.

This very singular tree is a native of Malabar, as well as Ceylon and Java; the Javanese reckon it amongst their Emollients, but I am disposed to think that it possesses far other virtues; the bark has a peculiar sub-aromatic and slightly bitterish taste, and is chewed by the Cyngalese when they cannot obtain the betel leaves; the Malays reckon the plant amongst their diuretics.

* See Rheede, Mal. vi. p. 25. t. 14., also Flor. Zeyl. 160. We are told by Ray, in his Philosophical Letters, that a cement may be made with the seeds of the aden. pavon., by beating them with borax and water.

Of the essential character, it has been simply said, that the "*Calyx* is four-cleft; *corolla* four-cleft; *berry* four-seeded."

The species in question has been described by Gærtner and Burman (Zeyl. 26. ind. 36); it was the *callicarpa tomentosa* of Linnæus (Ed. Murr. p. 153.), and the *tomex tomentosa* of the Flor. Zeyl. 59. But Willdenow, and with propriety, gave it the specific appellation of *lanata*, from the circumstance of the branches, peduncles, and leaves being covered with a kind of woolly nap; which occasioned also its trivial German name, *Woolige Schonheere*. It is a native of Ceylon as well as India; the leaves are ovate, the size of the hand; the peduncles axillary and solitary; the berry the size of a pepper-corn, black, one-celled, and contains four bony seeds, which are convex on one side, and concave on the other, with an obscurely elevated ridge. There are three other species of this genus in India, the *cal. villosa* *, *cal. macrophylla*, and *callicarpa Americana*; which last is also a native of *Cochin-China*, and there called *cay-nang-nang*.† The root of it in Upper Hindoostan, is supposed to have virtues of an alterative nature in certain cutaneous complaints, there named *masha*; the plant itself in Sanscrit is *mashandari*, in Hindoostanie it is *bastra*, and in Bengalese *massandari*. Sir William Jones speaks of it as a most beautiful shrub, with a corolla monopetalous, funnel-formed, and of a fine lilac colour.

Of this genus there are two species natives of Jamaica, according to Swartz; viz. the *ferruginea*, and *reticulata* (See Lunan's Hortus Jamaicensis, vol. i.

* Though of this Willdenow appears to entertain some doubt. See Spec. Plant. tom. i. p. 621.

† Flor. Cochin-Chin. (vol. i. p. 70.)

p. 144.). Eleven species are growing in the botanical garden of Calcutta, eight of which are natives of India.

CLXXI.

MANJITTIE VAYR மஞ்சிட்டிவேர் (Tam.) *Poo-ut vayr* (Mal.) *Munjistha* मंजिष्ठा (Sans.) *Bengal Madder Root.*

Rubia Munjista (Roxb.).

Cl. and Ord. Tetrandia Monogynia.

In addition to what is said of this in the first volume, it may be observed, that the *Hakeems* are in the habit of prescribing an infusion of it as a grateful and deobstruent drink, in cases of scanty lochial discharge after lying-in. Another Tamool name for this plant is *sawil codie*. The species in question is minutely described by Dr. Roxburgh, in his Flora Indica. Of the essential character of the genus, he says, "*Calyx* scarcely any; *cor.* one-petalled, from four to five-parted; *berries* inferior, twin; *seeds* solitary; *embryo* erect and furnished with a perisperm." He has given us not less than twelve Sanscrit names for the plant: I shall here be satisfied with two, *munjistha*, and *bhundeeree*; in Bengalese it is *munjit*, and is of the natural order Stellatæ.

It is, properly speaking, a native of Nepaul *, and is kept alive, it would appear, with great difficulty in the rainy season, at Calcutta. It has a perennial root, and rises with a woody stem, climbing over

* Dr. Clarke tells us, that the Greeks, in the Defile of Tempe, use for dyeing wool a kind of madder root (rubia), found at Churdiz and Bachir, in Asia, and which is brought to them from Smyrna; the Ampelakians call it lizar. See Travels. (Vol. vii. p. 367.)

trees and bushes; *leaves* four-fold, petioled, one of the pairs always much larger than the other, with longer petioles; all are beautifully cordate, entire, acute, pointed, generally five or seven-nerved; *flowers* numerous, minute; *cor.* flat, five-parted; *berries* two or none, size of a small grain of pepper; *seed* single, round, smooth.* By Moon's Catalogue of Cyngalese plants, there is but one species of rubia a native of Ceylon, the rubia secunda, the *manda-mandina-wæla* of the natives.

CLXXII.

MARA MUNJIL மரமஞ்சல் (Tam.) *Jār ke huldie* جار کي هلدي (Duk.) *Mānipússúpoo* (Tel.) *Darvee* (Sans.) *Tree Turmeric.*

Mara munjil is the Tamool name of a round, yellow-coloured, bitterish root, commonly met with in bazars, about an inch in circumference; it is employed in preparing certain cooling liniments for the head, and is also sometimes used as a yellow dye; it is brought for sale from the mountains, but I have endeavoured in vain to ascertain the plant.

CLXXIII.

MARA OOPPOO மரஉப்பு (Tam.). *Jar ka nemuck* جار کا نمک (Duk.) *Manie Ooppoo* (Tel.) *Potass.*

POTASSA IMPURA.

* See Flora Indica, p. 383.

This a few of the more enlightened *Vytians* are in the habit of preparing, though in a clumsy way, from the ashes of certain vegetables; chiefly from plantain and cocoa-nut leaves. They make with it a kind of *travagum* (strong liquor), in conjunction with different hot seeds, which they administer as a diuretic. The salt made in Travancore from the stalks of the cocoa-nut branches is there called *ténnam muttay charum.*

Carbonate of potassa is of great importance in the arts and manufactures, especially in dyeing and bleaching, and is commonly called pearl, or wood ash; it may be obtained by passing carbonic acid into a solution of potassa, evaporating to dryness, and exposing the dry mass to a red heat; it consists, according to Brande,* of

1	Proportional acid - -	20·7
1	——————— potassa -	45
		65·7

The pearl-ash of commerce contains a variety of impurities, which render it of variable value. Kirwan says, that, in general, weeds yield more ashes than wood; and that those of America and Trieste have no superiority over the Irish. Of all weeds, *fumitory* produces most salt; next to it, *wormwood.* The metal *potassium* was discovered in 1807, by Sir Humphry Davy, by submitting potash to the action of voltaic electricity; it is of great lustre and ductile, but instantly tarnishes on being exposed to the air; its specific gravity is 0·85.; if heated in air, it burns with a brilliant flame, and is an excellent conductor of electricity and of heat.

* See Brande's Manual of Chemistry, vol. ii. pp. 43, 44.

CLXXIV.

MARATIA MOOGHOO மராட்டிமூகூ சாகு (Tam.) *Junglie loong* جنگلي لونگ (Duk.) *Mārātay moghooloo* (Tel.) *Mādānākāméshārá* (Sans.).

Maratia mooghoo is the Tamool name of certain broken down, dried capsules and small seeds, to be procured in many of the medicine bazars of Lower India; and which are said to possess a sedative and slightly intoxicating quality. They are prescribed in electuary to stop purging and ease pain; they are also given in milk; one capsule, with its seed, in powder, is the common dose. I have endeavoured, in vain, to ascertain from what plant they are procured, and would recommend their being used with caution.

CLXXV.

MARUKARUNG KAI மருங்காய்கொட்டை (Tam.) *Mŷn phul* میدّہ پھل (Hind.) *Jowzul kowsul* (Arab.) *Mangha kāia* (Tel.) *Emetic Nut*, or *Nut of the Bushy Gardenia.*

GARDENIA DUMETORUM (Retz.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ. *Heeken Gardenie* (Nom. Triv. Willd.).

This, as it appears in the bazars, is a nut about the

size of a small nutmeg*, containing numerous sweetish-tasted, strong-smelling seeds. The *Vytians* consider it amongst their best Emetics, and prescribe it accordingly, in the quantity of about one pagoda weight. It is given commonly in the form of powder, the whole nut, seeds included, being pounded. An infusion of the bark of the root is administered to nauseate in bowel complaints.

The essential character of the genus is thus given by Willdenow, "Contorta; *bacca* infera 2-locularis polysperma; *stylus* elevatus, bilobus; *cal.* lacinis verticalibus" (Spec. Plant. i. p. 1225.).

The species in question is a small, thorny shrub, having stiff, round, smooth *branches*, with *leaves* opposite, obovate entire; *flowers* lateral and terminal, solitary, small, on short pedicels at the end of each twig; *calyx* smooth, bell-shaped; and a *corolla*, leathery, and scarcely longer than the calyx. It is a native of Ceylon, and there called *weli-kukuraman;* it is also common on the Coromandel coast, and was first noticed particularly by Koenig.

Dr. Heyne, in his Tracts† on India, speaks of a medicinal plant under the name of *gardenia pavetta*, classing it amongst the astringent and acrid vegetables; but what it is, I know not, nor have I ever heard that there was any gardenia of that specific name. *Ruiz* and *Pavon*, in their *Flora*‡ *Peruviana et Chilensis*, mention a plant under the name of *gardenia longiflora*, the fruit of which is eaten by the American Indians; it is the *randia longiflora* of Lamarck, now

* Roxburgh, in the second volume of his Flora Indica, (p. 564.), describes the plant particularly, and says, that the fruit, when ripe, looks like a small yellow apple.

† See Heyne's work. (p. 137.)

‡ See *Flora Peruviana* and *Chilensis*. (Tom. ii. p. 66.)

the *gardenia multiflora* of Willdenow; it would appear to be a native of both Asia and America. Loureiro, in his Flor. Cochin-Chinen. vol. i. p. 147. notices three species; the g. grandiflora, the *cay-deanh-nam* of the Cochin-Chinese, he says, has medicinal virtues: "Refrigerans, emolliens, prodest præcipue, in febribus hecticis et phthisicis, dysuria, et scabie."

Mr. Lunan, in his *Hortus* * *Jamaicensis*, informs us, that the pulp of the berries of a species of gardenia, (*aculeata*) stains paper and linen of a fine blue colour; and which, he thinks, would prove an excellent fixed blue in all manner of paints and prints; the plant is the *gardenia randia* of Willdenow (Spec. Plant. vol. i. p. 1230.), but the *gardenia aculeata* of Miller.

Roxburgh, in his Coromandel† Plants, when speaking of the *gardenia dumetorum*, our immediate article, observes, that the *nut* bruised and thrown into pools where there are fish, intoxicates them, in the same way that the *Cocculus Indicus* does. I perceive that it has a place in the Ulfaz Udwiyeh, under the names of جوزالكوذل *jowzalkusil* and جوز القي *jowz alkie*, Arabic and Persian, and that it is there considered as *diaphoretic* and provocative.

It would appear by *Deslongchamp's* account of the plants that might be substituted in Europe for the ipecacuan of the shops, that the most efficacious are the roots of three species of euphorbia, viz. euphorbia gerardiana, of which the dose is about xviii. or xxiv. grs.; euphorbia cyparissias, of which the dose is from xii. to xviii. or xx. grs.; *euphorbia sylvatica*, of which the dose is nearly the same as

* See Hortus Jamaicensis, vol. i. p. 427.
† See Coromandel Plants, vol. ii. p. 19.

that of the last mentioned. The author speaks of the root of the *narcissus odorus* as deserving attention for a similar purpose, in doses of from xviii. to l. grs. He also notices *loignion du lis narcisse* (pancratium maritinum) as a valuable substitute, in doses of from xl. to lx. grs. The leaves of the *asarum Europæum** are, he says, more decidedly emetic than all those mentioned, in doses of the powder of from xx. to xl. grs.†

Eighteen species of gardenia are growing in the botanical garden at Calcutta, ten of which are natives of India.

CLXXVI.

MAREDOC (Tel.) *Cōvălum* (Hort. Mal.) *Tanghulo* (Malay). *Bilanus* (Rumph.) *Modjo* (Jav.) *Beli* (Cyng.) *Bivalva* (Sans.) *Bengal Quince.*

ÆGLE MARMELOS (Roxb.).

Cl. and Ord. Dodecandria Monogynia. Nat. Ord. Putamineæ. *Dornige Cratæve* (Nom. Triv. Willd.).

This, by Roxburgh's account (Cor. Pl. vol. ii. p. 23.), is a pretty large tree, from the rind of which the Dutch, on Ceylon, prepare perfume. Rheede, in his Hort. Malab.‡, says, that a decoction of the bark

* See Manuel des Plantes Usuelles Indigines de France, tom. ii. p. 27.

† Of the emetics of the western world, two of the most powerful appear to be the root of the *sanguinaria Canadensis*, in doses of xv. or xx. grs. (the plant is the *pucoon* of the Indians), and the root of the *gillenia trifoliata*, in doses of xxx. grs.; which last is said not to be inferior to ipecacuanha. See Barton's Materia Medica of the United States, vol. i. p. 34., and same volume, pp. 66, 67.

‡ See Hort. Mal. part iii. p. 38.

of the root is considered, on the Malabar coast, as a sovereign remedy in hypochondriasis, melancholia, and palpitation at the heart; that the leaves, in decoction, are used in asthmatic complaints; and that the fruit, a little unripe, is of use in diarrhœa. The fruit is considerably larger than that of the feronia elephantum, and the shell much harder. Roxburgh observes, that the fruit, when ripe, is delicious to the taste, and exquisitely fragrant. Horsfield, on the other hand, in his Account of the Medicinal Plants of Java, informs us, that it is considered, by the Javanese, as of a very astringent quality. The mucus which surrounds the seeds is a good cement. The tree is the *cratæva marmelos* of Linnæus, and the *beli* of the Cyngalese. Moon notices two varieties on Ceylon, the *kana* and *eta;* the first of which is esculent. The wood of it is light-coloured, and beautifully variegated with veins.

Of the essential qualities of the genus, Willdenow says, "*Cor.* 4-petala; *cal.* 4-fidus; *bacca* 1-locularis, polysperma" (Spec Plant. vol. ii. p. 852.).

The species in question is a thorny plant with serrated leaves; the flowers are produced in small clusters from the side of the branches, five or seven standing on a common branching peduncle. See Burm. Zeyl. 84.

CLXXVII.

MAROODANIE மருதாணி (Tam.) *Maritondi* (Cyng.) *Mayndie* مهندي (Duk.) *Henna* حنا (Pers.) *Urkan* ارکان (Arab.) *Daun lacca* (Malay). *Gorunta chettoo* (Tel.) *Mail anschi* (Hort. Mal.)

Cyprus alcanna (Rumph. Amb.) *Sakachera* (Sans.) *Henna*, or *Ivenie*, or *Broad Egyptian Privet*.

LAWSONIA SPINOSA (Lin.).

Cl. and Ord. Octandria Monogynia. Nat. Ord. Salicariæ. *Dornige Alkanna* (Nom. Triv. Willd.).

The *Vytians* prepare a kind of extract from the pale-yellow, strong-smelling flowers of this shrub*, as also from the leaves and tender shoots, which they consider as a valuable remedy in cases of lepra, and other depraved habits of body; prescribing it in the quantity of half a tea-spoonful twice in the twenty-four hours; the leaves are also used as an external application in cutaneous affections, and, by the Mahometan women, for dyeing their nails red; the same thing is done with them, it appears, by the accounts of Niebhur† and Desfontaines‡, in Arabia and Barbary: in which last-mentioned country the natives, besides, use them for staining their horses' manes and tails of a red colour.

Of the essential character of the genus, Willdenow says, "*Cal.* 4-fidus; *petala* 4; *stamina* 4-parium; *caps.* 4-locularis, polysperma" (Spec. Plant. vol. ii. p. 344.).

Desfontaines, above quoted, is of opinion, that the Lawsonia spinosa and L. inermis are the same plants §; but that the plant, when young, has no thorns, and

* Which, Dr. Francis Hamilton thinks, ought with more propriety be termed Lawsonia cyprus. See Dr. F. Hamilton's admirable Commentary on the Hortus Malabaricus, in the Transactions of the Royal Linnæan Society, vol. xiii. part ii.

† See his Travels in Arabia, vol. ii. p. 236.

‡ See his Flora Atlantica, vol. i. p. 326.

§ And the same name is given to both in Hindoostanie and Bengalese, *mindee*.

I am inclined to be of the same opinion*, though Willdenow makes them distinct species; but it must be allowed, that the only distinction he notices is that the one is *ramis spinosis* and the other not. Our article usually rises to the height, in India, of about twelve or fourteen feet; it is often employed for making garden hedges.

Horsfield, in his Account of the Javanese Medicinal Plants, says, that the *Lawsonia inermis* grows in Java, where it is called *pachar,* and is considered as a mild astringent. On the Malabar coast it has got the name of *pontaletsce.* The flowers of the ivenie (Laws. spinos.), though not unpleasant to the smell when quite close, are peculiarly so at a little distance; they come out in loose bunches from the sides of the branches. The leaves are small, of an oblong oval shape, and pale green colour. The shrub is the *cyprus alcanna* of Rumphius (Amb. iv. p. 42. t. 17.). For further particulars regarding it, the reader is referred to Abulfadli, apud Cels. i. 224., to Avicenna, 173., and also to *Sprengel's* "Historia Rei Herbariæ." (Vol. i. p. 258.)

Our article is growing in the botanical garden of Calcutta, introduced before the year 1794. In Cochin-China it is cultivated in gardens, and is there called *caymaong tay nhuom;* the natives believe it to have virtues at once astringent and refrigerant. Flor. Cochin-Chin. vol. i. p. 229.

* The Egyptians have different Arabic names for them; for the Laws. spinosa it is اركان, for the other تمر حنه. Vide Forsk. Flor. Egypt.

CLXXVIII.

MAROOL KALUNG மரவள்ளிக்கிழங்கு (Tam.) *Moorgabie ká gudda* مرکابي کا کڈہ, *Tshama-cada*, or *Chāngā gudda* (Tel.) *Muroova* (Sans.) *Marool Root*, or *Root of the Sanseviera of Ceylon*, or *Bow-string Hemp.*

Sanseviera Zeylonica (Thunb.).

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Coronariæ. *Zeylonische Sanseviere* (Nom. Triv. Willd.).

This fleshy creeping root is, in a slight degree, warm to the taste, and of a not unpleasant odour; and is prescribed, by the native practitioners, in the form of an electuary, in consumptive complaints and coughs of long standing, to the quantity of a small tea-spoonful twice daily. The juice of the tender shoots of the plant, which, by the way, is the *katu kapel* of the Hort. Mal. (ii. p. 83.), they administer to children to clear their throats of viscid phlegm.

Of the essential character of the genus, Willdenow says, "*Cor.* infera monopetala tubo filiformi limbo 6-partito revoluto.; *stam.* limbo inserta; *bacca* 1-sperma" (Spec. Plant. vol. ii. p. 159.).

The plant* in question is the *shoochi mookhee* of the Bengalese, the *aletris hyacinthoides* of Linnæus (Spec. 456.), and the *aletris Zeylonica* of the first

* Of it Willdenow says, "S. foliis lanciolatis uniformibus, stylo staminibus duplo longiore, bracteis tubo corollæ triplo brevioribus, floribus sessilibus." The plant appears to be the sanseviera *thyrsiflora* of Thunberg. (Prod. 65.)

editions of Miller's Dictionary; it seldom rises higher than six or eight inches, and is much prized on account of its nar, or tough stringy fibres, of which cordage is made on the Coromandel coast. See article *Marool nar*, in Chapter I. Vol. III.

It is growing in the botanical garden of Calcutta, and is indigenous in India; it is cultivated in great abundance at *Cumbum*, and on the *Vursenaud* mountains in the Dindigul district; it also grows in Ceylon, called by the Cyngalese *maha-niyanda*; it has perennial, stole-bearing roots, and is well described by Dr. Roxburgh (Cor. Plants, ii. p. 83.).

CLXXIX.

MARADUM - PUTTAY மரதுமபட்டை (Tam.) *Muddie putta* (Tel.) *Urjoon* (Hind.) *Arjuna* अर्जुन (Sans.) *Winged Terminalia Bark*, or *Márádum Bark*.

TERMINALIA ALATA (Kœnig.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Elæagni (Juss.).

This bark, as it appears in most of the Indian bazars, is of a reddish brown colour, and has a strong, but not unpleasant, astringent taste; it is considered by the *Vytians* as possessing antifebrile qualities, and the powder of it, in conjunction with gingilie oil, is used as a valuable application for *kindatalie* (Tam.), (aphthæ of adults), and the *akkirum* (Tam.) or aphthæ of infants. The juice of the leaves is poured into the ears, to allay the pain of the earache.

Of the essential character of the genus, Willdenow says,

"MASCUL. *Cal.* 5-partitus; *cor.* 0; *stam.* 10.

"HERMAPH. *Flos.* masculi; *styl.* 1; *drupa* infera, cymbiformis."

The species in question would appear hitherto to have been only noticed by Kœnig. Like its two congeners *latifolia* and *catappa*, it is a very large tree; its bark is employed in the process of dyeing black; the wood for making the long beams in house building.* In the Northern parts of Canara boats and canoes are made of it. The tree is a native of Ceylon, and is there called *kumbuk* by the Cyngalese; three other species of terminalia grow in that island (See Moon's Catalogue of Ceylon Plants, p. 73.).

CLXXX.

MASHIPUTRIE மாசிபத்திரி (Tam.) *Seroni* (Malay). *Afsunteen* افسنتين (Arab.) *Mustāroo* (Duk.) *Duna* (Hind.) *Burunjasif kouhee* (Pers.) *Domolo* (Jav.) *Dana* (Sans.) *Indian Wormwood.*

ARTEMISIA INDICA (Willd.).

Cl. and Ord. Syngenesia Superflua. Nat. Ord. Compositæ Nucumentaceæ. *Indischer Beyfus* (Nom. Triv. Willd.).

This strong-smelling bitter plant the Tamools consider as a valuable stomachic medicine; they also suppose it to possess deobstruent and antispasmodic

* Of it Rottler says, in his "Herbarium Rottlerianum" (MSS.), "Fol. cordato-eliptic, serrulat. glabris, obtusis, ad petiolum biglandulosis; florib. racemosis, fructib. alatis."

virtues, and prescribe it in infusion and electuary, in cases of obstructed menses and hysteria; they sometimes, too, use it in preparing antiseptic fomentations, as they also do its congener *art. abrotonum.*

Of the essential character of the genus, Willdenow says, "*Recept.* subvillosum, vel nudicusculum; *pappus* nullus; *cal.* imbricatus squamis rotundatis, convenientibus; *cor.* radii nullæ." Spec. Plant. vol. iii. p. 1815.

The species in question has been particularly described by the author just quoted (vol. iii. p. 1840.), and differs from the *art. austriaca* (which is also common in many parts of Hindoostan), by the latter having "foliis incano-sericeis, inferioribus pinnatis, pinnis tripartibus linearibus," &c. This species (*art. aust.*) is also a native of Japan, China, and Java; in which last-mentioned country it is named *domolo*, and by the Malays *seroni.* Our article is the *katutsjetti-pu* of Rheede (Mal. 10. p. 89. t. 45.) and the *wal-kolondu* of the Cyngalese.

We are told by Thunberg, in his Travels *, that in Japan, what is called *moxa*, is prepared from the dried tops and leaves of the artemisia vulgaris (*gāi*, Japanese) †, these being beat in a mortar till they become like tow; this substance is rubbed betwixt the hands till the harder fibres and membranes are separated, and there remains nothing but a very fine cotton; the Japanese use it as tinder, and people of all ages burn themselves with it occasionally, to prevent or cure rheumatism. In China, as we are informed by Loureiro, in his Flor. Cochin-Chin.,

* See vol. iv. p. 74.

† Which is in Hindooie *nagdona*, and in Sanscrit *nagadamana.* Our article, the art. Indica, with eight other species, grow in the botanical garden of Calcutta.

vol. ii. p. 492., another species is employed to prepare the same substance (*moxa*)*, and that is the *art. Chinensis;* it is the *khi-ngai*, and also the *gaetsaou* of the Chinese, and the *nelampala* of the Hort. Malabaricus (x. p. 97. t. 49.), distinguished by a simple herbaceous *stem*, and *leaves* simple, tomentose, obtuse, lanceolate, the lower ones wedge-shaped and three-lobed. Moxa is highly prized in China for curing many disorders, by being burnt upon the affected part. The Laplanders, we are told, use a fungous substance, found in the fissures of old birch trees, for the same purpose.

For an account of the various diseases cured or relieved by the moxa at Japan and in China, where the *artem. vulgaris* has got the names of *futz* and *jamoggi*, the reader is referred to Kempher's "*Amœnit. Exotic.*" (p. 600-604.), where he speaks of its use in cephalalgia, rheumatism, &c., and to Abel's Journey into China (p. 216.).

CLXXXI.

MASSOY.

I give this a place here, on the authority of Virey, who in speaking of it has these words; "Ecorce mince, presque plane, de couleur de canelle, ayant un épiderme grisatre strié. Son odeur est très balsa-

* See an account of the virtues of moxa, as an external application in gout, by Sir W. Temple, in Thornton's Family Herbal, p. 692.; also of its virtues in head-ache, vertigo, endemic colic, gout, and hypochondriasis, in *Kæmph. Amœnit. Exotic Fascic.* iii. p. 601. A valuable treatise on the subject of moxa has been written by Dr. James Boyle, who has also given us a well-detailed case of anchylosis cured by a modified application of it. See London Medical and Physical Journal for Feb. 1826, p. 112.

mique, sa saveur douce, puisque piquante; elle donne en la brulant une vapeur d'odeur de canelle. On l'apportait jadis de l'Inde Orientale. C'est un tonique" (Hist. Nat. de Medicamens, p. 321.).

The same author informs us, that it is supposed to be obtained from the *laurus culilaban*, which is the *cortex caryophylloides* of Rumph. (Amb. ii. p. 65. t. 14.), and may be distinguished from all the other laurels by having opposite leaves*; but it would seem that they are not constantly so; and the fructification is evidently that of the *laurus*. It is a native of *Cochin-China* as well as India, and Verey thinks resembles in its virtues the leaves of the *evodia ravensara* of Gærtner.

CLXXXII.

MAVILINGHUM PUTTAY ലാറ്റാണ്ടിമരം ലാലാണ്ടി (Tam.) *Birmiké-chawl* برمي کي چهال (Duk.) *Maredoo putta* (Tel.) *Tapia* (Hind.) *Varuna* वरुण, also *Varana* वरन (Sans.) *Bark of the Smooth Tapia, or Garlic Pear.*

CRATÆVA TAPIA (Lin.).

Cl. and Ord. Dodecandria Monogynia. Nat. Ord. Putamineæ. *Spitzblattrige Cratæve* (Nom. Triv. Willd.).

The juice of the astringent bark of this tree, though Dr. Buchanan† says it is useless, the *Vytians* prescribe as a tonic in intermittent fever, and in typhus: a

* See Willd. Spec. Plant. vol. ii. p. 478.
† See his Journey through Mysore and Malabar, vol. ii. p. 343.

decoction of the bark itself is also used for a similar purpose: of the latter the dose is half a tea-cupful twice or thrice daily.

Of the essential character of the genus, Willdenow says, "*Cor.* 4-petala; *cal.* 4-fidus; *bacca* 1-locularis, polysperma." Spec. Plant. vol. ii. p. 852.

The species in question grows on Ceylon to the height of about thirty feet, with a large trunk; it is unarmed; *leaflets* ovate, acuminate; *petals* ovate-roundish, blunt; *germs* globular; the *flowers* are produced at the end of the branches, standing on long peduncles; the fruit, which is edible, but not very good, is about the size of an orange, having a hard brown shell, inclosing a mealy pulp, filled with kidney-shaped seeds; it has a strong smell of garlic, which it communicates to the animals which feed on it. Hence it is sometimes called *garlic-pear*. Query, Is it not the *niirvala* of the Hortus Malab.?

Of this genus, two species are natives of Jamaica*, viz. our article, and the *cratæva gynandra*. Of the first, Braham says, the fruit is cooling, and the leaves are applied externally to take away inflammations about the anus, and also for the ear-ache: with regard to the last, we are informed by *Dancer*, in his *Medical Assistant for Jamaica*, that the root blisters like cantharides.

CLXXXIII.

MENDI (Cyng.), also *Wal-eka-weriya* (Cyng.). *Kājo-Ular* (Jav.).

OPHIORHIZA MUNGOS (Lin.).

* See Lunan's Hortus Jamaicensis, vol. i. p. 317.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Stellatæ. *Indische Schlangenwurz* (Nom. Triv. Willd.).

Mendi is one of the Cyngalese names of a tree which the natives of Ceylon use in cases of snake-bites; the leaves, root, and bark are made into decoction, and administered in doses of half an ounce. I find another Cyngalese name amongst my papers for ophioriza, *ekawerya*.*

Of the essential character of the genus, Willdenow says, "*Cor.* infundibulif.; *germen* 2-fidum; stigmata 2; fructus bilobus." Spec. Plant. Willd. vol. i. p. 826.

The species in question has a simple stem; leaves opposite, lanceolate-ovate, quite entire, smooth, with obliquely transverse nerves petioled; flowers sessile, from the upper side of the horizontal spike (See Miller.). A better description of it, however, may be found in the Flora Indica, vol. ii. p. 544, with some observations from Dr. Wallich; Roxburgh does not appear to think that the plant has any medicinal virtues whatever. The *ophiorhiza Mungos* † is treated of by Avicenna under the name of لحيه *Lŏ-heih*, and may be found well-described by Kæmpher, in his Amœn. Exot. 577. Horsfield, in his Account of Java Medicinal Plants, says, that the *ophior. Mung.*‡ has been confounded with the *ophioxylum serpentinum* (*chundra* Beng.) both by Murray and

* We also learn from Gærtner that it has got the Cyngalese name of *nagawalli*, from the circumstance of the leaves being considered as a specific for the bite of the ribband snake. For further particulars see Rumph. (Amb. vii. t. 16.).

† See Sprengel's Historia Rei Herbariæ, vol. i. p. 249.

‡ It has been said to be the plant that the Mungoos have recourse to when bitten by the coluber naja, but this, I am inclined to think, is not the case. The mungos is the *viverra ichneumon* of *Shaw*. Zool. Pl. 92.

Burman, but that they are very distinct in every respect. The *stem* of the first, he adds, is strictly herbaceous, and the *pericarp* a compressed, two-lobed capsule; and while he is of opinion that the *ophior. Mung.* is altogether insipid and inert, he thinks the *ophioxylum serpentinum* may prove a valuable acquisition to medicine. See it mentioned in this Part and Chapter under the name of *Tsjovanna Amelpodi.* It is admirably described in the Flora Indica (vol. ii. p. 530.).

CLXXXIV.

MILE UNNAY (Tam.) *Mŏhurkátail* مهركاتيل (Duk.) *Dohunool tawoos* دهن الطاوس (Arab.) *Memilie noonay* (Tel.) *Peacock's Fat.*

ADEPS PAVONIS.

The fat of the peacock (which is a common bird in the woods of India) the native practitioners consider as a valuable external application in cases of rigid joints, and in certain paralytic affections. The Sanscrit name of it is *mayūra tāilam* मयूरतैलं.

CLXXXV.

MOLAKARUNNAY మొలకారుణ్ణ (Tam.) *Conda-cashinda* (Tel.) *Kakatoddali* (Rheede). *Prickly Scopolia.*

SCOPOLIA ACULEATA (Smith).

Cl. and Ord. Pentandria Monogynia. *Stachliche Scopolie* (Nom. Triv. Willd.).

Molakarunnay is the Tamool name of a small white root, about the third part of an inch in diameter, the bark of which is bitter, pungent, and sub-aromatic, and is considered as stomachic and tonic. It is given in a weak infusion to the quantity of half a tea-cupful in the course of the day; the leaves are also sometimes used for the same purposes.*

Of the essential character of the genus, Miller says, "*Cal.* 5-cleft; *nect.* none; *stigma* capitate; *caps.* berried, 5-celled; *seeds* solitary."

The species in question is now growing in the botanical garden of Calcutta, and is a climbing shrub, common in the woods of Malabar, with a round stem, which is covered with prickles, and, according to Willdenow, has leaves ovate-acuminate. Rheede† particularly describes the plant, and tells us, that the flowers are white and sweet-smelling; the fruit, according to Burman, is tricoccous, saffron-coloured, with black spots, and has an acrid taste, with some sweetness. The shrub is the *paullinia Asiatica* of *Linnæus*, the *cranzia* of *Schreber*, and would appear, hitherto, to have been best described by Smith in his "*Plantarum Icones. hactenus ineditæ.*" The plant is, by Moon's account, the *kudu-miris* of the Cyngalese. See Cat. of Ceylon Plants, p. 17., also Burm. Zey. t. 24.

* Roxburgh, in the second vol. of the Flora Indica (p. 380.) describes the plant fully; it is one of the most common on the coast of Coromandel; it has an irregular stem, corky bark; branches numerous; prickles innumerable; leaves alternate, ternate, armed; flowers small, white; berry, the size of a small cherry, and fully as pungent as black pepper. The berries make an excellent pickle; the fresh leaves are eaten raw for pains in the bowels.

† See Hort. Mal. v. p. 81. t. 41.

CLXXXVI.

MODIRA CANIRAM (Hort. Mal.) *Mahapenala* (Cyng.) *Widoro-pait* (Jav.) *Serpent's Wood*, *Koochila-luta* (Beng.).

STRYCHNOS COLUBRINA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Luridæ.

I have given this a place here, chiefly on the authority of Rumphius and Dr. Horsfield; the first informs us, that the plant is used on Java, in cases of intermittent fever, and as an anthelmintic, and externally in certain diseases of the skin; it is also employed, Dr. Horsfield tells us, externally in cutaneous affections, and to alleviate the pain and swelling from confluent small-pox. The latter adds, that the physicians in Malay countries occasionally prepare with it an excellent bitter tincture. It is supposed to be the *arbor ligni colubrini** of Rumphius.† Avicenna ‡ mentions it under the name of دند الصيني, "ob venenatam ligni qualitatem memorabilis." *Serapio* § and others speak of its purgative quality; the part of the plant commonly employed in medicine, is the root, which is woody and covered with an iron-co-

* I say, supposed to be, because Dr. Roxburgh conjectures that there is still another species of strychnos (differing both from the s. colub. and s. nux vomic.), which yields the real lignum colubrinum, or at least another sort of it. Flor. Ind. vol. ii. p. 265.

† Amb. ii. c. 46. t. 37.

‡ Avicenna, ii. 125.

§ See Serapio, c. 358.

loured bark. *Virey* *, in his "Histoire Naturelle des Médicamens," informs us, that in an over-dose it occasions tremors and vomiting, but mentions at the same time, that in smaller doses it may be considered as a useful vermifuge, and given also with advantage in obstinate quartan agues. Some authors seem to think, that this is the same plant with the *strychnos nux-vomica*, which yields nux-vomica, the poison-nut already mentioned in the first volume of this work. I perceive, however, that Roxburgh as well as Willdenow gives both species (see Spec. Plant. vol. i. p. 1052.), in which the last-mentioned author distinguishes them, by the *strych. nux vom.* having "*leaves* ovate, *stem* unarmed", and the *strych. colubrina* † "*leaves* ovate acute, tendrils simple." Of the essential character of the genus, he says, "*Cor.* 5-fida; *bacca* 1-locularis; cortice lignoso." I shall conclude by observing, that Rheede ‡, too, makes them different plants; the one he calls *caniram*, the other *modira caniram*.

The plant is growing with two others of the genus, viz. the *nux vomica* (*koochila*, Beng.), and the *potatorum* (*nirmulee*, Beng.), in the botanical garden of Calcutta; introduced in 1800.

* See his work, p. 191.

† It is well described by Roxburgh, in the second vol. of the Flora Indica, at p. 264.; it is, he says, scandent; stem of great size, often from eight to twelve inches in diameter; leaves opposite, from oval to oblong; flowers small, greenish-yellow; berry round and as large as an orange.

‡ See Hort. Mal. vii. p. 20. t. 5., and i. p. 67. t. 37.

CLXXXVII.

MOODA COTTAN மூடகோதகோதன (Tam.) *Boodda kanka rākoo* (Tel.) *Kāravī* कारवी (Sans.) *Smooth-leaved Heart-pea.*

CARDIOSPERMUM HALICACABUM (Lin.).

Cl. and Ord. Octandria Trigynia. Nat. Ord. Trihilatæ. *Glatter Herzsame* (Nom. Triv. Willd.).

The root of this twining plant is considered by the native practitioners as aperient, given in decoction to the quantity of half a tea-cupful twice daily; it is mucilaginous, and in a slight degree nauseous to the taste. The species is the *ulinja* of the Hortus Malabaricus, and the *anty* of the Malays. Rheede informs us, that on the Malabar coast the leaves are administered in pulmonic complaints (Mal. viii. t. 23.).

Of the essential character of the genus, Willdenow says, "*Cal.* 4-phyllus; *pet.* 4; *nectar.* 4-phyllum inæquale; *caps.* 3, connatæ, inflatæ." Spec. Plant. vol. ii. p. 467.

The *mooda cottan* (Tam.), is a twining, herbaceous, annual plant, with leaves broad-lanceolate, sinnuate-gashed, smooth and biternate. Browne (Jam. 213), says, "foliis ternato, ternatis acuminatis serratis." The flowers are "axillary, solitary, small, white, and on long peduncles; the receptacle a white fungous tubercle, and the seeds solitary, globular, black, and marked with a white, heart-shaped, umbilical scar" (Loureiro and Gærtner). By Miller's account, the plant would appear to be a native not only of the East and West Indies, but of the Society islands.

It grows on Ceylon, and is there called *maha penala* by the Cyngalese, also *wæl-penela*. It is the *halica-cabum* Rumph .(Amb. vi. p. 60. t. 24. f. 2.), and the *cay-tam phoung* of the Cochin-Chinese (Flor. Coch. Chin., vol. i. p. 239.).

CLXXXVIII.

MOOKARUTTY VAYR முகமூடிவேர் (Tam.) *Tikrie ké jurr* تکڑي کي جڑ (Duk.) *Attika maméddie vayroo* (Tel.) *Sinadika*, also *Punarnavā* पुनर्नवा (Sans.) *Root of the Spreading Hogweed.*

BOERHAVIA DIFFUSA (Lin.).

Cl. and Ord. Monandria Monogynia. Nat. Ord. Aggregatæ. *Æstige Boerhavie* (Nom. Triv. Willd.).

This root the native practitioners consider amongst their laxative medicines, and prescribe it in powder, in the quantity of a tea-spoonful twice daily. It is single, oblong, hard within, with a soft thin bark, on the outside of a dusky colour; and of a slightly bitter and somewhat nauseous taste. The leaves, which vary in size, are ovate, or rather roundish, they are of a bright green colour and whitish underneath, and are sometimes curled at the edges; they are eaten by the Indians.*

Of the essential character of the genus, Willdenow says, "*Cal.* margo intigerrimus; *cor.* 1-petala, campanulata, plicata; *sem.* 1-nudum, inferum (*stam.* 1. f. 2.)" (Spec. Plant., vol i. p. 18.).

* The Peruvians give an infusion of the Boerhavia scandens in cases of gonorrhœa (see Flora Peruviana, vol. iv. p. 4.); they call the plant "yerba de la purgacion."

The species in question, which is the *houng-si-sin* of the Cochin-Chinese, "has many diffused *stalks*, about two feet long; the *flowers* are of a pale red colour outside, deeper within, grow very scatteringly upon long branching peduncles from the axils, and at the end of the branches; and are succeeded by brown, oblong, striated, and very rough seeds." Mr. Lunan, * in his Hortus Jamaicensis, informs us, that the weed in Jamaica is commonly gathered for the hogs, which, however, seldom eat the root; this scraped, and made into decoction, he says, is administered in flux cases.

Roxburgh, in his Flora Indica †, describes a species of Boerhavia under the specific name of *procumbens*, which seems to differ in some particulars from our article, though he doubts whether they may not be in fact the same; his plant has leaves variously *cordate*, sometimes *acute* and sometimes *obtuse;* which the Boerhavia *diffusa* of Swartz (Ob. p. 10.), and, as described by Browne (Jam. p. 123.), certainly have not. Roxburgh, however, concludes by saying, that the *Boerhav. procum.* is the only one he has seen in India. The *Boerhavia diffusa* appears to be the *jan lopes* of the Cyngalese, and the *taludama* of the *Hortus Mal.* (vii. p. 105. t. 56.).

I cannot conclude this article, without mentioning that Horsfield, in his account of Java medicinal plants, informs us, that the Boerhavia diandria is considered on that island as emetic; it is the *Boerhavia hirsuta* of Willd. (Spec. Plant., vol. i. p. 20.). It is also a native of Jamaica, and is distinguished by sending out many trailing hairy stalks, which

* See Lunan's Hortus Jamaicensis, vol. i. p. 377.
† See Flora Indica, p. 148.

divide into smaller branches. Two species * of Boerhavia are now growing in the botanical garden of Calcutta, the *procumbens* and *repanda;* the first is the *gadha-poorna* of the Bengalese, the other is a native of St. Helena, introduced by Mr. Burchel in 1809.

CLXXXIX.

MOOLLIE VAYR மூலிவேர் (Tam.) *Tella mulaka vayro* (Tel.) *Kolsi ké jurr* كولسي كي جڑ (Duk.) *Trong-ngor* (Jav.) *Vrihatī* वृहनी (Sans.) *Root of the Indian Night Shade.*

SOLANUM INDICUM (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Luridæ. *Indischer Nachtschatten* (Nom. Triv. Willd.).

This root has little sensible taste or smell, but is amongst the medicines which the Indian doctors prescribe in cases of dysuria and ischuria, in the form of decoction, to the quantity of half a tea-cupful twice daily.

Of the genus, Willdenow says, "*Cor.* rottata; *antheræ* subcoalitæ, apice poro gemino dehiscentes; *bacca* 2-locularis." Spec. Plant. vol. i. p. 1025.

The species † in question, which is the *tib-batu* of

* Moon, in his Catalogue of Ceylon Plants, notices a species of Boerhavia, which he calls glutinosa, which I can find nowhere else mentioned, and which the Cyngalese name *pita-sudu-pala* (p. 5.). The species scandens, Lunan says, is considered as an emollient plant in Jamaica.

† We are told by Ruiz, in his *Flora Peruviana* (vol. ii. pp. 31—39.), that what he calls solanum crispum is used, in Peru, in de-

the Cyngalese * and the *vyakool* of the Bengalese, has "a shrubby and prickly stem, about two or three feet high, with leaves wedge-shaped †, angular, subvillose, quite entire, prickles straight; the flowers, which are of a purplish blue colour, come out in longish bunches from the sides of the stalks; *berries* round, of a golden colour, and as large as cherries" (Miller).

Horsfield, in his account of Java medicinal plants says, that the root taken internally possesses strongly exciting qualities. Rumphius tells us, that it is employed in difficult parturition. I know it to be also employed in the tooth-ache. The plant is the sol. frutescen. Burm. Zeyl. p. 220. t. 36, and the *cheruchunda*, Rheede, Mal. ii. t. 36.

CXC.

MOOKAVULLIE VAYR மூகவுல்லி வேர் (Tam.) *Root of the Prickly Galega*, or *Goat Rue.*

GALEGA SPINOSA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Dornige Geisraute* (Nom. Triv. Willd.). Spec. Plant. vol. iii. p. 1230.

coction, in inflammatory fevers; and that the solanum scabrum (Ruiz.) bears a berry which has the virtues of soap; the name of the first in Peru is *natre*, that of the other *casimuru*.

* See Burm. Zey. t. 102.

† Roxburgh gives a somewhat different description of the same plant, and says, "leaves ovate, lobate, and downy." Flor. Ind. vol. ii. p. 252.

This small root, in its succulent state, has a pleasant taste, and somewhat fragrant smell; and prescribed in conjunction with ginger, by the *Vytians*, in cases of dyspepsia, in decoction, to the quantity of half a tea-cupful, twice daily.

Of the essential character of the genus, Willdenow says, "*Cal.* dentibus subulatis, subæqualibus; *legumen* striis obliquis, seminibus interjectis." Spec. Plant. vol. iii. p. 1239.

The species in question has its stems or branches white with down; of the plant in other respects, somewhat differing accounts are given by Willdenow and Linnæus (Suppl. 335.). The former says, "foliis pinnatis, foliolis cuneatis emarginatis, stipulis spinescentibus, leguminibus falcatis axillaribus subsolitariis." In the latter (and it altogether corresponds with the plant as I have seen it near Madras), we are told, that the *stem* is diffused; the *legumes* hanging, solitary, back-sickled, compressed; *stipules* spinescent, and *leaflets* wedge-shaped, hoary; the *flowers* are upright and small.

Ten species of galega now grow in the botanical garden of Calcutta; the g. purperea *, is amongst them, and called in Bengalese *surpunka*. See Hort. Bengalensis, p. 57. The galega toxicaria is a native of South America, the pounded leaves and branches of which are used for poisoning fish.

* It is the *gam-pila* of the Cyngalese. See Moon's Catalogue, p. 55., also Burm. Zeyl. t. 32.

CXCI.

MOONNEE VAYR மூனுனவேர் (Tam.) *Ghébboonellie vayroo* (Tel.) *Agni-mantha* अग्निमन्थ (Sans.) *Root of the Undivided-leaved Premna.*

PREMNA INTEGRIFOLIA (Lin.).

Cl. and Ord. Didynamia Angiosperma. Nat. Ord. Personatæ. *Ganzblattrige Premna* (Nom. Triv. Willd.).

This root has a somewhat warm and bitterish taste, and an agreeable smell; and is prescribed in decoction, as a gentle cordial and stomachic in fevers, and on other occasions requiring medicines of this nature, to the quantity of half a tea-cupful, twice daily. The plant would appear to be the *appel* of the *Hort. Mal.*, in which it is mentioned by Rheede, who says, that a decoction of the leaves is given for pains and wind in the stomach; they are eaten by the inhabitants of the Coromandel coast.

Of the essential character of the genus, Willdenow says, "*Cal.* bilobus; *cor* 4-fida; *bacca* 4-locularis; *sem.* solitaria" (Spec. Plant. vol. iii. p. 314.).

The species in question is the *folium hirci* of Rumph. (Amb. iii. p. 28. t. 134.); It is mentioned in Burman Ind. under the name of *cornutia corymbosa.* It is a small tree with ovate or ovate-cordate leaves, obtuse and quite entire. Willdenow expresses a doubt whether it be different, or only a variety of the *premna serratifolia;* but both Herman and Burman seem to consider them as distinct; the first of these has called it *sambucus Zeylanica odorata aromatica* from its agreeable smell.

Our article grows in Ceylon, with four other species; it is the *maha midi* of the Cyngalese. Burm. Ind. t. 41. f. 1. It, with six other species, are growing in the botanical garden of Calcutta.

CXCII.

MOROO மோர் (Tam.) *Chaatch* چاچ (Duk.) *Dogh* دوغ (Arab.) *Tsállā* (Tel.) *Takram** तक्रं also *dandāhatam* दण्डाहतं (Sans.) *Butter Milk.*

LAC EBUTYRATUM.

The natives of India value butter milk very highly as a cooling† drink, in cases requiring refrigerants. It appears to me in a peculiar manner to allay the irritability of the stomach in certain dyspeptic affections; and to possess considerable efficacy in calming the nerves of those suffering from having taken too much green tea. In India it is of a superior quality, being light and extremely pleasant to the taste, owing, perhaps, to the butter there being generally made from *sweet milk*. In cases of incipient phthisis I have known it of the *greatest advantage*, drank early in the morning, in bed; it must be taken in a small quantity at first, and gradually increased.

* The term *takram* is only used when mixed with water.

† I have in several cases of ardent remittent fever, in India, where proper evacuations had been previously procured, allowed its free use with the very happiest effects.

CXCIII.

MORUNGHIE* VAYR. *Wild Morungy Root*, or *Root of the Senna-leaved Hedysarum.*

See article Horse-Radish Country, in Part I. Chap. I. of this work.

CXCIV.

MOSUMOOSKI கோசுகோசுகலைக (Tam.) *Musmusá* موس مسه (Duk.) *Noodhosa* (Tel.) *Ahilaykum* (Sans.) *Rough Bryony.*

Bryonia Scabra (Lin.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ *Scharfblattrige Zaunrube* (Nom. Triv. Willd.).

The tender shoots and rough cordate angular leaves of this species of bryony, are considered by the natives as gently aperient, and are also eaten occasionally; when used medicinally, they are previously toasted.† The essentials of the genus have been already noticed. The *mosumaoski* has a beautiful small yellow flower, which, as do the leaves, springs from the joints. The fruit is a small red streaked berry, which is slightly bitter, and is considered as stomachic and aperient. The plant is also a native

* Dierbach, in his Materia Medica of Hippocrates, says, that the hyperanthera moringa was the Βαλανος Αιχυπλιος of Hippocrates; see his work, chap. v.

† The dose is half a cupful of the infusion, twice daily.

of the Cape of Good Hope, where it was found by Thunberg.

It has been described by Lin. Suppl. (423.), by Thunb. Prod. 13., and in Ait. Kew. (iii. p. 385.) The last observes, that it has "leaves cordate angled, villose underneath, callous-scabrous on the upper surface; tendrils simple; berries globular; seeds smooth." Six species of bryonia grow in Ceylon, but this is not noticed in Moon's Catalogue.

CXCV.

MUEL-SCHEVY மூளைசெவி (Hort. Mal.) *Patta cāmudi* (Malay.) *Boo-kadu-para* (Cyng.) *Shudi-mudi* (Beng.) *Cay-mat-tlang* (Coch. Chin.) *Udiram-panum* (Sans.) *Sow-thistle-leaved Cacalia.*

CACALIA SONCHIFOLIA (Lin.).

Cl. and Ord. Syngenesia Æqualis. Nat. Ord. Corymbiferæ (Juss.). *Gansedistelblattrige Pestwurz* (Nom. Triv. Willd.).

Rheede* tells us, that a decoction of this plant is considered as antifebrile, on the Malabar coast; and that the juice of it, mixed with sugar, is given in bowel complaints. I perceive that Virey, in his "Histoire Naturelle des Medicamens" (p. 199), informs us, that the leaves of two other species, the *cac. alpinia* and *cac. saracenica* are recommended in coughs.

Of the essential character of the genus, Willdenow says, "*Recept.* nudum; *pappus* pilosus; *cal.*

* See Hort. Mal. p. x. p. 135.

cylindricus, oblongus, basi tantum subcalyculatus". (Spec. Plant. vol. iii. p. 1725.).

The species in question, which is the *sonchus amboiensis* of Rumphius (Amb. v. p. 297. t. 103.), has an annual root, and an herbaceous stem about two feet high, branching a little towards the top, with *leaves* lyrate, *stem* clasping and toothed (Willd.); it has usually but few flowers, which are about the size of those of common *groundsel*, in a terminating panicle, cylindrical, with the proper peduncles, bristle-shaped; the *calyx* entirely simple; the florets, as described by Loureiro, are blood-coloured and minute. Murray * and he both speak of the medicinal qualities of this plant; the first says, that it is used both in the medicine and œconomy of the Indians; the latter†, that it is deemed detergent, and its leaves eaten raw in salads. It is a native of China, Cochin-China, and Amboyna, as well as of India; and is at this time growing in the botanical garden of Calcutta. See Hortus Bengalensis, p. 60. In the Flor. Zeyl. (305.) it is noticed under the head of *Klenia caule herbaceo* foliis lyratus; in the Burm. Zeyl. 61. under that of *chondrilla Zeylanica, minor marina, folio sinapios.*

CXCVI.

MYLE CONDAY (Tam.) *Nemilie shega* (Tel.) *Mayūra shikhanda* मयुरशिखण्ड (Sans.) *Peacock-tailed Adiantum*, or *Maiden Hair.*

ADIANTUM MELANACAULON?

* See Murray Comm. Goett. Nov., tom. iii. p. 79. t. 7.
† See Flor. Cochin-Chin. vol. ii. p. 486.

Cl. and Ord. Cryptogamia Filices. Nat. Ord. Filices.

This very low fern, which seldom rises higher than five inches, is commonly found on the face of rocks, or mountain cliffs; it has very small delicate opposite leaves, and has got its Tamool name from the resemblance it bears to a peacock's tail. The leaves are sweetish, with a slight degree of bitterness and astringency, and are considered, by the natives, as possessing tonic powers; they are given in powder, to the quantity of one pagoda weight daily.

Of the essential character of the genus, Willdenow says, " sori oblongi vel subrotundi *indusiis* membranaceis, e margine ortis, interius dehiscentibus, inserti" (Spec. Plant. vol. v. p. 427.).

It would appear, by Lunan's *Hortus Jamaicensis*, that no less than fourteen species of adiantum are natives of Jamaica; three of which are there ranked amongst their medicinal plants, viz. the *adiant. villosium*, which, Sloane says, Piso recommended in coughs; the *adiant trapeziforme*, the syrup of which, Dancer says (in his Medical Assistant), resembles that of the maiden hair of Europe; and the *adiant fragile*, which Browne declares to be efficacious in purulent consumptions, and in an ulcerated and relaxed state of the glands of the throat. This last-mentioned author would seem to think that all the species* of this genus are more or less light subastringent vulneraries.

* See Lunan's Hort. Jamaicensis, vol. i. p. 475.

CXCVII.

MYSACHIE (Tam.).

This is the Tamool name of a gum, or gum resin, which I found in the custom-house at Madras, the day before I left India, but which I had no leisure to examine; it was said to be brought from Arabia. I give it a place here in the hope that it may become a subject of inquiry.

CXCVIII.

NAGAMULLIE VAYR நாகமல்லிவேர் (Tam.) *Kábūtér ke jar ke jur* کبوتر کي چهار کي جر (Duk.) *Nāgámállie vayroo* (Tel.) *Nagamullie Root*, or *Root of the White-flowered Justicia.*

JUSTICIA NASUTA (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Schnabelformige Justice* (Nom. Triv. Willd.).

This root fresh, when bruised and mixed with lime juice, is considered as a sovereign application for ring-worms and other cutaneous affections; the leaves are also employed for the same purposes. The plant is the *palek joohie* پالک جوهي of Upper India, and the *pulcolli* also *peelcolli* of the *Hortus Mal.* (ix. p. 135. t. 69.) I have taken the liberty of giving it the English name of *nagamullie*, by which it is universally known in lower India. The essential character of the genus has been already noticed.

The species in question does not rise higher than four or five feet; its stem is green, shrubby, and somewhat angular, the leaves are opposite, lanceolate, and on short foot stalks; and the peduncles dichotomous (Sup. pl. 23,); the flowers are pure white, but altogether inodorous. Should further particulars be required respecting the *justicia nasuta**, the reader is referred to Miller and Willdenow (Spec. Plant. vol i. p. 90.). It is called in Cyngalese *anitia*, and in Bengalese *jooi-pana*.

Twenty-nine species of justicia grow in the botanical garden of Calcutta, all natives of India, except two, the justicia alba, and the justicia peruviana. See Hortus Bengalensis, pp. 3, 4. Twenty-three species grow in Ceylon. See Moon's Catalogue p. 3.

CXCIX.

NAGATALIE KULLIE நாகதாளிகள்ளி (Tam.) *Juppal saynd* جپل سیند (Duk.) *Straight Thorned Opuntia*, or *Oblong Indian Fig*.

CACTUS FICUS INDICA (Lin.).

Cl. and Ord. Icosandria Monogynia. Nat. Ord. Succulentæ. *Indische Fackeldistel* (Nom. Triv. Willd.).

This species of *opuntia* is indigenous in India, and is what the Silvester cochineal insect fed on so voraciously as almost to have rendered the plant ex-

* Six species of justicia are natives of Jamaica, one of which is medicinal, the *just. pectoralis;* the plant is made a syrup of, which is of use in disorders of the breast; the bruised leaves are applied to wounds and cuts. See Lunan's Hort. Jamaicensis, vol. ii. p. 452.

tinct on the Coromandel coast; the *cactus tuna** they would not touch, neither would they the *cact. pereskia*, nor cact. opuntia, these however have all the same name in Tamool. The fruit of the c. opuntia is eaten, and the leaves are considered as refrigerant, and applied to allay external heat and inflammation.

Of the essential character of the genus Willdenow says, "*cal.* 1-phylus, superus, imbricatus; *cor.* multiplex; *bacca* 1-locularis, polysperma" (Spec. Plant. vol. ii. p. 938.).

The species in question is the *cay-luoi-roung* of the Cochin-Chinese, and is distinguished by being proliferous jointed; joints ovate oblong; spines setaceous (Spec. Plant. 669.). It is a very common plant in India, at least was so before it was so destructively fed on by the Silvester cochineal insect. The flowers, which are yellow, come out from the upper edges of the leaves, as in the species opuntia, but the fruit is larger, and of a deeper purple colour, and has the effect, to a certain degree, of dyeing the urine red (Miller). It would seem, that in some parts of the world the fruit of the *cactus ficus Indica* is held in

* The celebrated and excellent Baron Humboldt, in his Essay on the Kingdom of New Spain, vol. iii. pp. 66, 67, 68, 69, 70, 71, and 72, informs us, that the *fine* differs from the Silvester or wild sort of cochineal, by the first insect being mealy, or covered with a white powder, while the other is enveloped in a thick cotton-kind of stuff, which prevents the rings of the insect from being seen. Although the wild insect would not touch the *cactus tuna* in India, the same author says it indiscriminately feeds on it, the cactus opuntia, and cactus ficus Indica, in America. He appears to have many doubts respecting the real species on which the *grana fina* feeds, and seems half inclined to think, that the grana fina insects, which the Indians of Oaxana cultivate with so much care, do not actually feed on the *cactus cochenillifer*, as has been supposed. Much certain information seems yet to be obtained on these interesting points. For more on this subject, the reader is referred to Long's History of Jamaica.

high estimation. Jackson, in his account of the Empire of Morocco*, says that it is there considered as refrigerent and a grateful restorative to relaxed bowels; but it is probable he may have confounded this species with the cactus triangularis, which Browne† calls the *strawberry pear*, and the fruit of which, according to Sloane, is the pleasantest of any of its kind, The cactus ficus Indica grows in Ceylon, with four other species, and is called by the Cyngalese *judu-kata-patuk*. See Moon's Catalogue of Ceylon Plants, p. 38.

CC.

NAGHA MOOGHATEI KAI (Tam.) *Nagara-mookutty kai* (Tel.) *Munda-valli* (Rheede) Mal. ii. p. 103. t. 50. *Puthmapoo todemie* (Sans.) *Large-flowered Bindweed*, or *Moon-flower*.

CONVOLVULUS GRANDIFLORUS (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Campanaceæ. *Grosblutige Winde* (Nom. Triv. Willd.).

Nagha mooghatĕi kai is the Tamool name of the capsule or pericarpium of this species of convolvulus, containing usually four seeds about the size of kidney beans; and which are eaten when young. Dried, these capsules and seeds, as well as the flowers, leaves, and root, are amongst the medicines which are supposed to have virtues in snake-bites. The dose of the seeds is about three daily, adminis-

* See his work.

† See Lunan's Hort. Jamaicensis, vol. ii. p. 413.

tered in powder. Another Tamool name of the plant is *vul-ademboo*.

Of the essential character of the genus, Willdenow says, "*Cor.* campanulata, plicata; *stigm.* 2-*caps.* 2-locularis: loculis dispermis." Spec. Plant. vol. i. p. 844.

The species in question, which the Cyngalese call *alanga*, is common on the Coromandel coast; it has an arboreous, erect, twining pubescent stem; the leaves, which are large, are ovate cordate, bluntish, quite, entire, and peduncled; it seldom bears more than two or three flowers, which are so large as to have caused the species to be called grandiflorus: calyxes corraceous; stem and petioles pubescent (Lin. Supp. 136.).

With the medicinal qualities of the *convolvulus scammonia*, and *convolvulus jalappa*, my readers are well acquainted. Lunan, in his Hort. Jamaicensis, speaks of two other species, natives of Jamaica, as possessing virtues of a peculiar nature, viz. the *convolvulus repens*, and *convolvulus Brasiliensis;* the root of the first, he tells us, is, according to *Sloane*, powerfully purgative; and is useful in working off hydropic humours; given in powder or boiled in broth. The same writer informs us, that the leaves of the second are used in baths for dropsies; and are "*put on issues to draw them*;" and *Plumier* * says, that the inspissated, and strong-smelling, milky juice of the same plant is extremely purgative, in fact a kind of scammony; and may be given as such to the quantity of from twelve to fourteen grains; and corrected, if necessary, by means of sulphur or cream of tartar. The *convolvulus repens* is common

* See Lunan's Hortus Jamaicensis, vol. ii. p. 107.

in India, and its leaves, which are sagittate and obtuse behind, are eaten by the Hindoos. This species has a creeping stem, and a perennial root, with large sulphur-coloured flowers on long peduncles, from the sides of the stalks. It may be found in Rheede's Hortus Mal.* under the name of *mandavalli*.

Thirty-seven species of convolvulus are growing in the botanical garden of Calcutta, twenty-six of which are natives of India. See Hortus Bengalensis, p. 13, 14.

CCI.

NAHIOOROOVIE VAYR காயுரூவேர் (Tam.) *Oni-no-ja* (Japan). *Agāréh ké jurr* اگري كي جر (Duk.) *Ooteraynie vayroo* (Tel.) حليم (Arab.) also محوط (Arab. Forsk. Flor. Arab.) نعيم (Egypt.) *Lalchirchiri*† (Hind.) *Apāmārga* अपामार्गः (Sans.) *Root of the Rough Achyranthes.**

ACHYRANTHES ASPERA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Miscellaneæ. *Scharfe Sproublume* (Nom. Triv. Willd.).

An infusion of this root the native practitioners suppose to be useful in bowel complaints, from its slight astringency; but I conceive it to have but very trifling virtues if any.

Of the genus Willdenow says, "*Cal.* 5-phyllus; *cor.* 0; *stigma* 2-fidum; *sem.* solitaria." Spec. Plant. vol. i. p. 1191.

* See Rheede, Mal. ii. p. 103. t. 50.

† This plant was brought to Dr. F. Hamilton while in Bahar, as one of those employed in medicine. The flowering spike, rubbed with a little sugar, is made into pills, and given to those who have been bitten by a mad dog. Hamilton's MSS.

The species in question rises to about the height of three or four feet, with an erect shrubby stem, calyxes repressed, and leaves resembling those of the *plumbago Zeylanica*, in being green and smooth on both sides; they are oblong, pointed, and dotted underneath; the flowers are in spikes at the end of the branches, appearing first like short reddish hairs, after which follow rough, prickly, green, reflected capsules, containing five seeds, oblong, reddish (Browne). The plant, as it grows in Sicily, differs a little from the Indian variety just described *; but they are no doubt but one species. Our article may be found particularly noticed by Browne, in his History of Jamaica (p. 180.); it with two others are natives of that island, but do not appear to be there considered amongst their medicinal plants. I shall conclude by observing, that the achyranthes aspera appears to be the *cadeli* or *cadelari* of Rheede† and the *auricula canis, mas.* of Rumphius (Amb. vi. p. 17. t. 12. f. 1.). Its Sanscrit name is *apāmārga*‡, also *apānga*, its Bengalese *chi-chi-ria apang*. The inhabitants of the Coromandel coast use the root for cleaning their teeth, by forming it into a sort of tooth brush. In Cyngalese the plant is called *gas-karal-sæbo*, and it would appear that two varieties, a red and white, are distinguished in Ceylon.

Ten species of achyranthes are growing in the botanical garden of Calcutta, five of which are natives of India. See Hortus Bengalensis, page 19. Eight species, by Moon's account, grow on Ceylon.

* See Flor. Zey. 105., also Burm. Zey. 16. t. 6. f. 3. for amaranth. spicat. Zeylonicus.

† See Hort. Mal. x. p. 155. t. 78.

‡ See Roxburgh's Flora Indica, vol. ii. p. 496.

CCII.

NAYAVAYLEI நாயவேலை (Tam.) *Walaba* (Cyn.) *Aria Veela* (Rheede). *Hoor-hoorya* (Hind.) *Kookā vāivinta*, also *Kooka Vumitie*, *Svānā burbārā* (Sans.) *Viscid Cleome*.

CLEOME VISCOSA (Lin.).

Cl. and Ord. Tetradynamia Siliquosa. Nat. Ord. Putamineæ. *Klebrige Cleome* (Nom. Triv. Willd.).

The small, compressed, netted-surfaced, hottish-tasted seeds, of this low-growing plant, have got the Tamool name of *Nāhi kúddághoo* or *dog's mustard*; and are considered by the *Vytians* as anthelmintic, and carminative; they are administered in the quantity of about a tea-spoonful, twice daily In Dukhanie the seeds are called *chōrie ājooan* چوري اجوان and in Arabic *buzrool bunge chémur* بزرالبنج چمر. The juice of the leaves, Rheede * says, is useful in deafness, poured into the ears. Of the essential character of the genus, Willdenow observes, "*Glandulæ* nectariferæ 3, ad singulum sinum calycis singulæ, excepto infimo; *petala* omnia adscendentia; *siliqua* unilocularis, bivalvis." Spec. Plant. vol. iii. p. 564.

The species in question is an annual plant, a native of India, and Ceylon, and seldom rises more than a foot high; with a simple, erect, round, striated, villose, *viscid* stem; which is usually of a red or rather reddish colour. The flowers, which are axillary, peduncled, at the top of the plant, are

* Rheede (Mal. ix. 23.).

twelve-stamened, and of a yellow white colour, and the leaves are quinate, except the uppermost, which are ternate (see Miller); they much resemble in this respect those of the *cleome pentaphylla*, which is the *vayley* of the Tamools, and *man-mantia* of the Cochin-Chinese, but have not the same fetid smell, and are smaller.

Of the four species of this plant, natives of Jamaica, two it would seem, are considered in that island as medicinal, that just mentioned (pentaph.), and the *cleome polygama*. Browne, in his account of that country, informs us, that the first is a wholesome green, but from its being a little bitterish, requires repeated boilings to make it palatable; he adds, that it is then considered as a preservative against the dry belly-ache. In Barbadoes *, Hughes tells us, that the juice of it mixed with sweet oil, and poured into the ear, cures the ear-ache; and this virtue, according to Lunan (Hort. Jamaica, vol. i. p. 68.), is confirmed by the testimony of Dr. A. Robinson.

With regard to the *cleome polygama*, *Barham* maintains (Hort. Amer., p. 108.), that the whole plant is balsamic and vulnerary, and that the leaves boiled in water provoke appetite, comfort the stomach, and expel wind! The species cleome dodecandria and cleome icosandria, are both natives of India; the first is the *sinapistrum* of Burm. (Zeyl. 216.), the root of which is a vermifuge; the second is the *lagansa* of Rumph. (Amb. v. t. 96.); and is employed for blistering.†

* See Hughes's Barbadoes, p. 210.

† Seven species of cleome appear to grow on Ceylon. Loureiro notices but two in Cochin-China. Flor. Cochin-Chin. vol. ii. p. 397.

CCIII.

NANJARAPĀNJĀN VAYR நஞ்சரபாஞ்சான் வேர் (Tam.) also *Nānjeramoorchum* (Rheede). *Prolific Swallow-wort Root.*

ASCLEPIAS PROLIFERA * (Rottler).

Cl. and Ord. Pentandria Digynia. Nat. Ord. Contortæ.

This small fibrous root operates as an emetic, and is usually given as such in the quantity of about half a pagoda weight for a dose; it is of a pale brown colour and somewhat nauseous taste. It is one of those medicines the *Vytians* have most reliance on, in cases of hydrophobia†; but I fear, they are often

* Of it Rottler says, in his *Herbarium* (MSS.), kindly lent me by Sir Alexander Johnston, "*Caul.* volubili, pubescente; *fol.* opposit. petiolat. cordato-ovat. acut. venos, supra glabris, infra sub pubescentibus; *florib.* axillarib. umbellatis; umbellis folio longioribus omnibus proliferis."

† I regret to say, that hydrophobia is of very frequent occurrence in India; some twenty years ago, it was there supposed that copious bleeding was a remedy to be relied on, but, alas! that was found to be but a delusion. On the person bitten being immediately brought to me, I have never failed to prevent the malady ensuing; by first washing the part with warm water, and then searing it effectually with a red-hot iron; but when the disease had once come on, I have yet seen none of the many things given to arrest its progress have the smallest good effect. It is singular enough, that hydrophobia should be so much more common in some countries than others, though in nearly similar latitudes. The late Dr. Harris, of Madras, told me, that it was altogether unknown on any of the Eastern islands. Sonnerat, I think, says, they have it not at the Isle of France. Brown, in his Travels in Africa, p. 338., observes, that in Egypt they are exempt from it. Genlis avers, that it never occurs at Manilla. The Abbé Don J. Ignatius has declared, in his History of Chili (vol. i. p. 34.), that there is no instance of its ever having appeared in

disappointed in their treatment of this most awful calamity.

Of the genus, Willdenow says, "Contorta, *nect.* 5-ovata, concava, corniculum exserentia.

The species in question has been scientifically described by Rottler, who first brought it to the especial notice of botanists; though it appears evidently to be the *nansjerapatja* of the Hort. Mal.

Twenty species of asclepias, are growing in the botanical garden of Calcutta. See Hortus Bengalensis, p. 20, 21.

that part of the world. And Mr. De la Condamine states, that in South America cats and dogs never go mad!

It was believed, some half dozen years ago, that Mr. Marachotti, of the hospital at Moscow, had discovered that this disorder manifested itself by certain small knots under the tongue, containing the poison, and that it was only necessary to open these and scarify them with a red-hot iron, to obviate all mischief; it does not appear, however, that this certainly simple method of cure has been confirmed by subsequent testimony, nor can I learn that any medical man of this country has ever yet seen such knots as are above-mentioned. So late as the year 1822, Mr. Previssal, of Paris, was said, by some ingenious experiments, to have found that the oxyginated muriatic acid, in doses of from f℥i. to f℥iss., given in citron water, removed the disease even after the symptoms were advanced; but I do not hear that this treatment, either, has borne the test of further experience. Considering that hydrophobia is a malady of violent excitement, an excitement which none of our antispasmodics or sedatives has hitherto been found powerful enough to subdue, might it not lead, perhaps, to some interesting result, since the evil cannot be remedied by any medicinal means within our reach, were we to try what could be done by combating one disease with another. As hydrophobia is then that which is marked by the most unmanageable excitement, I should recommend that recourse should be had to that which is distinguished as being most direct and deadly sedative known, I mean the bite of a coverkapel. This, to some it may seem strange, proposition I suggested to a medical friend who lately returned to India, who agreed with me that for a desperate disease we may be excused in looking towards a desperate remedy.

CCIV.

NARRA MAMADY (Tel.)

TETRANTHERA MONOPETALA (Roxb.).

This is a middle-sized tree, a native of the vallies, and first scientifically described by Roxburgh in his "Coromandel Plants" (vol. ii. p. 26.) It has an erect stem, with a dark-greenish rusty coloured smooth *bark;* the *leaves* are alternate, short-petioled, oblong, entire, above pretty smooth, below downy, and from four to six inches long, and from two to three broad; there are male and female *flowers;* the *peduncles* are axillary, numerous, short, undivided; *bractes* small, rusty-coloured, downy at the insertion of each peduncle. The bark is mildly astringent, and has a considerable degree of balsamic sweetness; it is used by the hill people in the cure of diarrhœa: for particulars I refer to the work above cited. The tree is indigenous in Hindoostan, and has got the Bengalese name of *kookoorchitta,* and is of the class and order Dioiecia Enneandria. Nine species of the genus are growing in the botanical garden of Calcutta, but two species appear to be natives of Ceylon.

CCV.

NARRHA (Tel.)

LAURUS INVOLUCRATA* (Roxb.)

Cl. and Ord. Enneandria Monogynia.

This is a small tree, found on the tops of the mountains in the Northern Circars, and is only noticed here from the circumstance of the natives employing the fresh bark mixed with pepper as an application to wounds: for botanical particulars the reader is referred to vol. ii. p. 46. of the Coromandel Plants of Roxburgh.

Of the genus Laurus, Loureiro found ten species in Cochin-China; four are in the botanical garden of Calcutta; four in Ceylon, and six in Japan (Flor. Japan. p. 172.).

CCVI.

NATTOO SOWCARUM நாட்டுசவுகாரம் (Tam.) *Saboon* صابون (Duk.) *Indian Soap.*

SAPO INDICA.

Soap is employed by the native practitioners of India nearly for the same purposes that we use it: they imagine, with what propriety is doubtful, that it is particularly efficacious in *timpanites*, or what the

* I perceive, in Dr. Horsfield's Account of the Medicinal Plants of Java, mention made of a species of laurus, which he calls *malabralum*, but which I know nothing of; the Javanese call it *sintok*, and place it amongst their Stimulants.

Tamools call *coonma vaivoo*. It is purgative and lithontriptic, and externally applied, it is an excellent stimulant and detergent: the dose is generally from five or six grains to five-and-twenty or thirty.

The different articles employed by the *Vytians* and soap-makers on the Coromandel Coast, in the process of making soap, are *overmunnoo* * (Tam.), *poonheer*†, *ooppoo* (common salt), *pottle ooppoo* (saltpetre) and *chunamboo* (quick-lime): proper proportions of each of these being chosen, they are all bruised together, and to the whole is added a certain quantity of pure water, the mixture is then well agitated for several hours, and allowed to stand for three days; the feculent matter having fallen to the bottom, the lixivium is strained off and boiled to form the *sowcarum*, a sufficient proportion of gingilie oil (oil of the sesamum Orientale) having been previously added when it first began to boil. This process, in fact, differs but little from that given by Macquer, and is perhaps the best for preparing what is called the *oil-soap*. There are varying *formulæ* for making other kinds,

* Overmunnoo is a saline earthy substance, found in many parts of Lower India, which contains a great deal of *soda*, and is employed by the Hindoos in the preparation of the lac dye, in bleaching, washing, dyeing, and soap-making; also in the manufacture of glass. In some parts of the Mysore country this substance (there called *soolu munnoo*) is seen in the form of a white efflorescence on the surface of sandy fields; and, in all probability, differs but little in its nature from the natron Sonnini speaks of as being common in the middle of a desart in Egypt, and from which an impure mineral alkali is prepared, used in bleaching. See Sonnini's Travels in Egypt, also Brown's.

† This is a very light, white-coloured, earthy matter, and, like the above-mentioned, contains a considerable portion of soda; it is employed in making glass, in dyeing, and by the *chucklers* (tanners) in tanning. I conceive it to resemble much that species of impure fossil alkali, called at Tripoli *trona*, found near the surface of the earth in the province of *Méndrab*, and which the Africans of Morocco use in the process of dyeing their leather *red*. See Lucas's Travels into the Interior of Africa.

such as *brown* or *yellow* soap, *white*, *black*, and *green* ditto, all of which are distinctly detailed by Mr. Nicholson in his admirable work on chemistry applied to the arts.

The reader may find the virtues of soap considered as a medicine amongst the Persians and Arabians well detailed in a work, entitled *Krabadinie Masūmie* قرابديي معصومي, or the Complete Dispensatory, written by *Māsum Ben Ibrahim*, a native of Shiraz, in 1649.

CCVII.

NATTOO VADOMCOTTAY நாட்டுவாதங் காய்கொட்டை (Tam.) *Badamie hindie* بادام هندي (Duk.) *Adamaram* (Rheede). *Cotumba* (Cyng.) *Vadomvittiloo* (Tel.) *Catappa* (Malays). *Inggudī* इंगुदी (Sans.) *Indian Almond.*

TERMINALIA CATAPPA (Lin.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Elæagni. *Gemeiner Catappenbaum.*

The kernel of the drupe of this species of terminalia has the taste and virtues of the almond, though perhaps, the flavour is more that of the English filbert. The drupe is nearly three inches long, egg-shaped, grooved, and contains but one kernel, which is considered as a nourishing food for weak people, and from which a pleasant edible oil is prepared, called in Tamool *vadomcattay unnay.*

Of the essential character of the genus Willdenow says,

" MASCUL. *Cal.* 5-partitus ; *cor.* 0 ; *stam.* 10.

"HERMAPH. *Flos.* masculi; *styl.* 1; drupa infera, cymbiformis" (Spec. Plant vol. iv. p. 967.).

The species now under our consideration is a large, tall, leafy, and most beautiful tree, (of which there are two varieties, a red and a white), with spreading branches in whorls. The leaves, which are obovate, and somewhat tomentose beneath, come out at the end of the branches in clusters. They are marked with a notch, and on short roundish petioles. The "hermaphrodite flowers," Willdenow observes, "are few, more remote, at the base of the racemelet, smaller than those of the currant; the kernel has the taste of a hazel nut." * *Cotamba*, *inggudī*, and *catappa*, are the Cyngalese, Sanscrit, and Malay names of the tree, not of the kernel. At Randa and Batavia, the tree grows wild in the woods: and we learn from Rheede, that it bears fruit three times in the year on the Malabar coast. I shall further notice respecting the *terminalia catappa*, that it is a valuable timber tree, and is what the levers of the draw-wells (*pikottás*) are usually made of at Madras. Foster (George), in his work "De Plantis Esculentis Insularum Oceani Australis," tells us that the bark and leaves yield a black pigment, with which the Indians dye their teeth, and of which Indian ink is sometimes made. Of the two species, natives of Jamaica, *term. latifolia* and *term. arbuscula*, the first only is medicinal, and bears, in its appearance, it would seem, a strong resemblance to our article; differing from it chiefly in having leaves only half the size, and the nut only one third, oval, and not at all grooved or margined. By Foster's account, in his work above cited, we learn that the *term. latifol.* is a

* See Willdenow Spec. Plant. vol. iv. p. 968.

native of the Society and Friendly Islands, and that at Otaheite it is called *auwiri ;* the kernels, he says, are eaten, and have the flavour of almonds. At Jamaica they are much prized ; and Mr. Lunan* observes, that a decoction of the root of the tree is in that Island given in cases of diarrhœa. Our article appears to be the *adamaram* of Rheede (Mal. iv. t. 5.). It, with three other species, grows in Ceylon (Moon's Catalogue. p. 73.).

CCVIII.

NAWEL PUTTAY நாவல்பட்டை (Tam.) *Jāmoon ke chāwl* جامون کي چهال (Duk.) *Néréddie putta* (Tel.) *Kāka jambu* काकजम्बु (Sans.) *Bark of the Clove-tree-leaved Calyptranthes.*

CALYPTRANTHES CARYOPHYLLIFOLIA (Willd.).

Cl. and Ord. Icosandria Monogynia. Nat. Ord. Hesperideæ. *Gewurznagleinblattarige Deckelmyrte* (Nom. Triv. Willd.).

This astringent bark is occasionally prescribed by the *Vytians,* in decoction, in fevers, and in certain bowel affections, in the quantity of half a tea-cupful twice daily ; it is also employed in the same form as a wash for foul ulcers. The bark is of a brownish colour, thick, and cloven, and has something of an aromatic smell.

Of the genus, Willdenow says, " *Cal.* superus truncatus ante anthesin tectus operculo integerrimo deciduo ; *cor.* 0 ; *bacca* unilocularis 1—4 sperma" (Spec. Plant. Willd. vol. ii. p. 974.).

* See Lunan's Hortus Jamaicensis, vol. ii. p. 116.

The species in question is the *peria njara* of Rheede,* and the *eugenia corticosa* of Loureiro (Cochin. p. 376.). It is a large tree with spreading branches. The author just cited, in speaking of it, observes, "foliis ovatis acuminatis racemis corymbosis filamentis brevissimis." We may further say, that the plant is the *jambosa ceramica* of Rumphius (Amb. 1. p. 130. t. 41.), and is distinguished, "paniculis lateralibus foliis eliptico-ovatus integerrimis." † It appears to me, that our present article well merits a more minute investigation than it has yet had; all who have yet hitherto written any account of the tree, speak of its aromatic properties. Burman (Zey. 27.) calls it *arbor Zeylonica cuminum redolens;* and *Plukenette* ‡ (Leonard) in his *Almagestum Botanicum*, terms it caryophillus languescente vi aromaticus.

Our article, with four other species, grows on Ceylon, called there *bata-domba* and must not be confounded with the calyp. caryophillata, which is the *gæta-dan* of the Cyngalese. See also Rheede (Mal. 5. 27.).

CCIX.

NEDEL KALUNG நெடுதலைக்கிழங்கு (Tam.) *Root of a variety of the Egyptian Water Lily.*

NYMPHÆA LOTUS § (Var.)

* See Hort. Mal. v. p. 57. t. 29.

† See Willd. in Uster, neue Annalen, ii. stuch. p. 22.

‡ See Alm. 88. t. 274. f. 2.

§ The nymphæa lotus is growing in the Company's garden at Calcutta, and has got the Bengalie name of *shalook;* it is also a native of Ceylon, and is called in Cyngalese *æt-oul;* two kinds are there distinguished, the white and red. Avicenna, in his Canon.

Cl. and Ord. Polyandria Monogynia. Nat. Ord. Succulentæ. *Ægyptissche Seerose* (Nom. Triv. Willd.).

This tuberous root, which is in its nature mucilaginous and demulcent, is amongst the medicines which the native practitioners prescribe internally in pile cases; it is ordered in the form of powder, decoction, and electuary; of the latter a tea-spoonful is given twice daily.

Of the essential character of the genus, Willdenow says, "*Cor.* polypetala; *cal.* 4, s. 5-phyllus; *bacca* multilocularis, loculis polyspermis." Spec. Plant. vol. ii. p. 1151.

I have never seen the plant of which our article is the root, but have called it a variety of the nymphæa lotus *, on certain excellent authority, that of my much esteemed friend Dr. Rottler; though I think it bears a question whether it may not be the root of quite a different plant, I mean the *menyanthes Indica*, which is the *nymphæa ceramica* of Rumphius †, and what Browne ‡, in his Natural History of Jamaica, calls "*menyan. aquatica nymphæ foliis cordato-orbiculatis, petiolis floriferis.*" To this conjecture I am especially led, by the name of the last-mentioned plant being, according to *Rheede* §, *nédél-ambel*, which is nearly the same as that of the

Med. lib. ii. tract ii. p. 137., speaks of three species or sorts of lotus (khandakokie خندقوقي), the silvestris, the sativa, and the Egypt.; of the seed of which last kind, he says, bread is made.

* The nymph. lotus is نفر nuphar of the Arabians; the ancient Egyptians made a sort of bread of its seed; it is the ambel of Rheede, ii. t. 26.

† See his Amb. vi. p. 173. t. 72. f. 3.

‡ History of Jamaica, p. 151.

§ See Hort. Mal. ii. p. 55. t. 28.

aquatic plant now under our immediate consideration; *ambel* being, it would seem, the common generic appellation for many water plants on the Malabar coast, in a similar manner as we find that *cumuda* (or delight of the water) is a common Sanscrit term for many of the same kind of plants in the higher provinces of Bengal, and which, by the way, Sir W. Jones bestows on a variety of the *menyanthes Indica*. The *menyan. Indica* or *Indian buckbean*, has leaves cordate, subcrenate, and by Sloane's account resembling those of the colt'sfoot; the petioles are floriferous, and the corollas hairy within: it is a native of Malabar.*

CCX.

NEERADIMOOTTOO நீராடிமொத்தை (Tam.) also *Neervettie moottoo* (Tam.) *Junglie bādām* جنگلي بادام (Duk.) *Adivie vadum vittiloo* (Tel.)

This is an oval-shaped brown nut, about the size of a filbert, but flattish; from its kernel, which has a nauseous smell, and tastes unctuous and a little acrid, an oil is prepared, that is supposed by the native doctors to possess virtues in leprous affections, given in doses of half a tea-spoonful twice daily; it for the most part sickens a good deal at first. The kernels and thin shells are sometimes ground together, and after being mixed with a little castor-oil are applied externally to cure the itch. I have not been

* What Loureiro calls the *nymphæa nelumbo*, the *cay-sen* of the Cochin-Chinese, but which is the nelumbium speciosum of Willdenow, is a native of Cochin-China, where both the root and seeds are eaten; it is the *tamara* of Rheede (Hort. Mal. ii. p. 59. t. 80.), and the *ren*, also *fatsis* of the Japanese. Flor. Japon. p. 223.

able to ascertain from what plant this article is obtained (it being usually brought from the woods); but conjecture, that it may be from a species of jatropha.

CCXI.

NEER MOOLLIE VAYR நீர்மொள்ளிவேர் (Tam.) *Gokshura* گوکشورا (Hind.)* *Neer goobbie vayroo* (Tel.) *Ikshugandhā* इक्षुगन्धा (Sans.)† *Root of the Long-leaved Barleria.*

BARLERIA LONGIFOLIA (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Langblattrige Barlerie* (Nom. Triv. Willd.).

This root, which has got its Tamool name from growing near water, is supposed to have virtues similar to those of the *moollie vayr* already mentioned. The plant is the *bahel-schulli* of Rheede‡, who tells us, that on the Malabar coast a decoction of the root of the biennial shrub is considered as diuretic, and given in dropsical cases and gravelish affections; the dose is about half a tea-cupful twice daily. The species in question has an erect, bluntly quadrangular, hisped stem; leaves opposite, ensiform, and very long; flowers on whorls blue or bright violet, axillary (Miller). It is a native of the Western coast of India; whence the root is brought across the peninsula to the medicine bazars of the Carnatic.

* Another Hindoostanie name is *tálmukhana* تلمکھانا.

† The plant has got still another Sanscrit name *palangkashā*.

‡ See Hort. Malab. par. ii. p. 88.

I shall conclude by observing, that of the genus of which but twelve species have hitherto been noticed, Willdenow says, "*Cal.* 4-partitus; *stamina* 2-longe minora; *caps.* 4-angularis, 2-locularis? 2-valvis, elastica absque unguibus; *sem.* 2." Spec. Plant. vol. iii. p. 375.

Seven species of barleria are growing in the botanical garden of Calcutta. Four species grow on Ceylon, where our article is called *katu-iriki* by the Cyngalese.

CCXII.

NEER-NOCHIE நீர்நொச்சி (Tam.) *Panie ke Shumbalie* پاني کي شنبالي (Duk.) *Ussel ke ābee* اثل کيابي (Arab.) *Nisindhā* (Hind.) also *Seduari* (Hind.) *Lagoondi* (Javan.) *Thuoc-on* (Coch. Chin.) *Neela vavilie* (Tel.) *Caranosi** (Rheede). *Jala-nirgundi* जलनिर्गुण्डि also *Sinduvāra* सिन्दवार (Sans.) *Three-leaved Chaste Tree.*

VITEX TRIFOLIA (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Dreyblattrige Mullen* (Nom. Triv. Willd.).

The tender shoots and leaves of this beautiful species of chaste tree (the last of which have a slightly bitter but delightful aromatic taste and smell), are considered by the native practitioners of India as powerfully discutient; and are in consequence

* See Hort. Mal. ii. p. 13. t. 10.

used in the form of fomentation, or simply applied warm in cases of sprains, rheumatism, swelled testicles, contusions*, contractions of the limbs, &c.; and it is a fact, that Bontius himself, who calls the plant *Indian privet*, extols it highly for the same virtues. Both Rumphius and Rheede particularly notice it; the first, according to Horsfield †, recommends it externally in swellings and diseases of the skin; the latter asserts, that the leaves powdered taken with water cure intermittent fever, and the root, and a bath or cataplasm of the leaves, he adds, are applied externally in rheumatism and local pains. The small, smooth, round, dark-coloured fruit is supposed by the *Vytians* to be nervine, cephalic, and emmenagogue, and is prescribed in powder, electuary, and decoction, the latter in doses of half a tea-cupful twice daily. Of the essential character of the genus, Willdenow says, "*Cal.* 5-dentatus; *cor.* limbus 6-fidus; *drupa* 1-sperma, nuce 4-loculari." Spec. Plant. Willd. vol. iii. p. 390.

The species in question, which is the *meean-milila* of the Cyngalese, and the *thuoc-on* of the Cochin-Chinese, rises to about the height of ten feet, being shrubby, branched, and round, and not thicker than the finger; it is often procumbent, and sometimes even creeping. "The leaves are ternate and quinate; leaflets ovate, acute, quite entire, hoary beneath, panicle with a straight rachis, pedicels dichotomous" (Lin. Supp. 293.). The flowers are violet in terminating racemes. The *three-leaved chaste tree* is the *lagondium vulgare* of *Rumphius* ‡; it is a com-

* See Hist. Aromat. Garcia ab Horto, p. 191.

† See his account of Java medicinal plants, in the Asiatic Journal for March 1819, p. 261.

‡ See Amb. iv. p. 48. t. 18.

mon Indian plant; was found by Loureiro * in Cochin-China, and has been well described by Sir William Jones †, who informs us, that in Upper Hindoostan, the leaves of it are used to stuff pillows, in order to cure cold in the head and headache. See article Noochie in this Chapter.

CCXIII.

NEERPIRIMIE நீர்ப்பிரமி (Tam.) *Shwet-chamni* (Hind.) *Sambranichittoo* (Tel.) *Adha-birni* (Beng.) *Jala brimmi* (Sans.) *Thyme-leaved Gratiola.*

GRATIOLA MONNIERIA (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Westindisches Purgierkraut* (Nom. Triv. Willd.).

The jointed root, as well as the stalks and leaves, of this creeping annual plant, are all used in medicine by the Hindoos, who consider them as diuretic and aperient, and to be particularly useful in that sort of stoppage of urine which is accompanied with obstinate costiveness; and Dr. Roxburgh, in his Flora Indica, informs us, that the expressed juice of it, mixed with petrolium, is rubbed on parts affected with rheumatism.

Of the essential character of the genus, Willdenow

* Of the fruit Loureiro says, "Califaciens, discutiens, nervina, cephalica, emmenagoga, prodest in paralysi, et artuum debilitate." Flor. Cochin-Chin. vol. ii. p. 390. Dr. F. Hamilton (MSS.) found the flowers (sinduyarphul) prescribed, in Behar, in conjunction with a little honey, in fevers attended with vomiting and much thirst.

† See his account of select Indian plants, in the Asiatic Researches, vol. iv. p. 293.

says, "*Cor.* irregularis, resupinata; *stam.* 2-sterilia; *caps.* 2-locularis; *cal.* 7-phyllus, 2 exterioribus patulis" (Spec. Plant. vol. i. p. 102.).

The species in question, which is only found in moist situations, and which the Tellingoos call *sambrani-chittoo*, in Bengalie has got the name of *adhabirni*, sticks close to the ground, and casts a few slender fibres from every joint as it creeps. The leaves are opposite, sessile, obovate, wedge-shaped or oblong, smooth, entire, obtuse, fleshy, and dotted with minute spots; and the flowers are blue.* The plant has been described by Sloane, in his Natural History of Jamaica†, under the name of *anagallis aquatica*. Browne‡, in his Natural History of the same island, says of it, *monniera minima repens*. It is a native of Ceylon, where fifteen species grow; our article is there called *lunu-wila*.

CCXIV.

NEELACOOMUL-VAYR நெல்கூம்பு வேர் (Tam.) *Nélā goomādi vayroo* (Tel.) *Waren* (Javan.) *Biddari* (Sans.) *Root of the Asiatic Gmelina.*

GMELINA ASIATICA (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Ostindische Gmeline* (Nom. Triv. Willd.).

* See Roxburgh's Flora Indica, vol. i. pp. 141, 142., also Cor. Pl. ii. t. 178.

† See History, i. p. 203. t. 129. f. 1.

‡ See work, 269.

This root, which, as it appears in the bazars, is mucilaginous and demulcent, the *Vytians* reckon amongst those medicines which purify the blood, in cases of depraved habit of body; given in the form of electuary, to the quantity of a tea-spoonful twice daily.

Dr. Horsfield, in his Account of the Medicinal Plants of Java, informs us, that the plant was formerly in high esteem amongst the Portuguese, who call it *rais madre de deos;* he adds, that it is mentioned by Rumphius (on the authority of a communication he received from Malacca), who calls it *jambusa sylvestris parviflora.** The Javanese term it *waren*, and would appear to consider it as of a deleterious nature. Loureiro speaks of its virtues: "Valent in doloribus articulorum, et affectibus nervorum, radix interne sumpta; folia externe applicata." Flor. Cochin-Chin. vol. ii. p. 376.

Of the essential character of the genus, Willdenow says, "*Cal.* sub 4-dentatus; *cor.* 4-fida, campanulata; *antheræ* 2-bipartitæ, 2-simplices; *drupa* nuce 2-loculari" (Spec. Plant. vol. iii. p. 313.).

Our article is the only species that has yet been noticed by Willdenow, and was first scientifically described by Professor Gmelin, of Petersburgh, who wrote the Flora Siberica. It is the *gæta-demata* of the Cyngalese, and is "a tree with round, stiff, upright branches; *leaves* opposite, petioled, ovate, tomentose underneath, having frequently a sharp short lobe on each side; spines axillary, opposite, horizontal, pubescent at the tip, the length of the petioles; *flowers* from the end of the tender twigs on pedunclest; the *fruit* is a berried drupe the size of jujubes,

* See Rumph. Amb. i. p. 129. t. 40.

† See Willd. Spec. Plant. vol. iii. p. 313.

black and smooth; it contains two small lateral lobes, in each of the two upper cells is a single seed, thickish, convex on the one side and flattish on the other."

I shall conclude what I have to say of this plant by a remark from Miller; viz. that the *cumbula* of the Hort. Mal. (i. p. 75. t. 41.) is by no means a *bignonia* (*catalpa*), *but* a genuine species of *Gmelina*, as the fruit evinces.

Four species of Gmelina are growing in the botanical garden of Calcutta*, all natives of India. The leaves of the species *parviflora* (Roxb.), gently bruised and agitated in water, render it mucilaginous and demulcent, and useful as a drink in gonorrhœa. See article *Shieri Goomoodoo*, in this Part and Chapter.

CCXV.

NELEPANNAY KALUNG நிலப்பனைகிழங்கு (Tam.) *Siah Mooslie* سیاہ موسلي (Duk.) *Tal-moolie* (Beng.) *Nalla tady gudda* (Tel.) *Warahi*† (Sans.) *Nelepannay Root*, or *Root of the Orchis-like Curculigo*.

Curculigo Orchioides (Roxb.).

Cl. and Ord. Hexandria Monogynia. *Ragwurzartige Russellilie* (Nom. Triv. Willd.).

This tuberous and wrinkled root, as it appears in the medicine bazars, is about four inches long; in a slight degree bitter and mucilaginous to the taste, and is supposed to possess virtues nearly similar to

* See Hort. Bengalensis, p. 46.
† Also *moossalie* (Sans.).

the last-mentioned article. It is prescribed in electuary, in the quantity of a tea-spoonful twice daily; it is also considered as possessing tonic qualities, and sometimes given with milk and sugar, in doses of two drachms in the twenty-four hours, in cases requiring such medicines.

Of the genus, Willdenow says, "*Cor.* 6-petala plana; *spatha* 1-valvis; *stylus* brevissimus; *stigmata* 3-divergentia; *caps.* 1-locul., 4-sperma spongiosa rostrata" (Spec. Plant. vol. ii. p. 105.).

The plant in question has been particularly described by Roxburgh, in his Corom. Plants (i. p. 14. t. 13.), and by *Gærtner*, in his work "De Fructibus et Seminibus Plantarum." "It is a low-growing plant with a tuberous root, which has many fleshy vermicular fibres; numerous leaves, all radical, petioled, and sword-shaped; with long, yellow, pedunculated flowers." Willdenow seems to consider it as the *orchis amboinica major* of Rumphius (Amb. vi. p. 116. t. 54. f. 1.); and Gærtner observes, that it differs from every other vegetable production in the singular structure of its style and capsule, and the roundish horny process from the outer and upper part of the seed, resembling the beak of a *curculio*, a coleopterous insect.

In the Hortus Bengalensis we find three species of *curculigo* mentioned, two of which are natives of India; see p. 29. of that work. Four species are natives of Ceylon.

CCXVI.

NELLIE POO நெல்லி பூ (Tam.) *Anooli ka pool* انولي کا پھول (Duk.) *Vurdi amludge* (Arab.) *Woosheriké poo* (Tel.) *Flower of the Emblic Myrobolan,* or *Shrubby Phyllanthus.*

PHYLLANTHUS EMBLICA (Lin.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Tricoccæ. *Baumartiger Phyllanthus* (Nom. Triv. Willd.).

The umbelled yellow flowers of this species of phyllanthus have an odour much resembling that of lemon-peel, and are supposed, by the *Vytians*, to have virtues of a cooling and aperient nature; they are prescribed, in conjunction with other articles, in the form of an electuary, in the quantity of about a tea-spoonful twice daily.

Of the genus, Willdenow says,

"MASCULI. *Cal.* 6-partitus; *cor.* 0; *filament.* columnare; *anth.* 3.

"FEMINEI. *Cal.* 6-partitus; *cor.* 0; *nect.* margo 12-angulatus; styli 3; *caps.* tricocca."

The species in question is the *amla* of the Bengalese, and the melloko of the Javanese; has a tree-like stem, which rises to the height of twelve or fourteen feet, with leaves, according to Sir William Jones, opposite, in general, oblong and lanced. The fruit is eaten by the Indians; has a place amongst the Astringents of the Javanese; and has been particularly described in the first volume of this work, under the head of *Myrobolan, Emblic;* it is also

noticed in speaking of the medicine *Bitlaban*, in this chapter. The plant has two Sanscrit names, *amālākā* and *amrita;* it is a native of India, Java, Cochin-China, and China; in which last-mentioned country, Loureiro tells us, its fruit has little or no juice. It is the *cay-boung-ngot* of the Cochin-Chinese; *boa* Malacca nilicāi of Rumph. (Amb. c. ii. tab. i.); the *nelli-camarum* (Rheede) and the myrabolanus in Java (Bont. Jav. i. 6. c. 24.).

CCXVII.

NEELA CADAMBOO (Tam.) *Nalla-usĕrēki* (Tel.) *Madras Phyllanthus.*

PHYLLANTHUS MADERASPATENSIS (Lin.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Tricoccæ. *Madrassisher Phyllanthus* (Nom. Triv. Willd.).

The leaves of this plant which are wedge-shaped, alternate, and mucronate, are used in infusion by the *Vytians*, which is drank as a useful medicine in head-ache.

The essential character of the genus has been noticed in treating of our last article. The species in question has its name from growing near Madras; it does not rise higher than two or three feet, and may be found particularly described by Gærtner (De Fructibus 2. 125.), and is called by Pitever, in his *Gozophylacium* Naturæ and Artes, *nirouri maderaspat. sennæfolio longiore.* The calyxes of the female flowers are six-toothed and blunt, of the male, five-toothed; these latter have five small

petals and three stamens. For further and more minute particulars the reader is referred to Willdenow's Spec. Plant. vol. iv. p. 575, and also to *Reichard.* from *Forsk. Egypt.* vi. 159.

Twenty-one species of phyllanthus are growing in the Honorable Company's garden at Calcutta, almost all natives of India. See Hortus Bengalensis, p. 69. Ten species are natives of Ceylon.

CCXVIII.

NEREIPOOTTIE (Tam.) *Nakapootta chittoo* (Tel.) *Manayi* (Cyng.) *Procumbent Justicia.*

JUSTICIA PROCUMBENS (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Liegende Justice* (Nom. Triv. Willd.).

The juice of the leaves of this plant is squeezed into the eyes in cases of ophthalmia. The essential character of the genus has been already given. The species in question has herbaceous diffuse branches, with sessile, linear-lanceolate, opposite leaves; *spikes* terminal, four-sided; bractes lanceolate, rigid; *lower* anthers calcarate. The *justicia procumbens* is common on pasture ground on the Coromandel coast, and seldom rises higher than seven or eight feet, with beautiful rose-coloured flowers, which are small, opposite, and decussate.* Twenty-nine species of justicia are growing in the Company's botanical garden at Calcutta, twenty-eight of which are natives of India. See Hort. Bengalensis.

* See Roxburgh's Flora Indica, vol. i. pp. 133, 134.

CCXIX.

NERINGIE நெரிஞ்சி (Tam.) *Gokoroo* گوکرو (Duk. also Hind.) *Khusuck* خسک (Pers.) *Bustee-taj roomee* بستیناج رومی (Arab.) *Putléroo* (Tel.) *Cay-ma vuong* (Coch. Chin.) *Soodumstra* (Sans.) *Small Caltrops.*

TRIBULUS TERRESTRIS (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Gruinales. *Gemeinar-Burzeldron.*

The pleasant-smelling and sweetish-tasted leaves, as well as the fibrous root of this annual, horizontal-growing plant, are said by the native practitioners to possess diuretic qualities; and are prescribed by them in decoction in the quantity of half a tea-cup-full twice or thrice daily.

Of the essential character of the genus, Willdenow says, "*Cal.* 5-partitus: *petala* 5, patentia; *stylus* 0; *caps.* 5, gibbæ, spinosæ, polyspermæ." Spec. Plant. vol. ii. p. 566.

The species in question is a common plant near the Dardanelles, and called in modern Greek Τριβόλια; "it has a slender fibrous root, from which spring four or five delicate stalks, spreading flat on the ground; these are hairy, and extend two feet and a half in length, the leaves are pinnated, six-paired, and nearly round. The flowers are axillary, on short peduncles, and composed of five broad, obtuse, yellow petals; these are succeeded by a roundish five-cornered fruit about the size of a marble, armed with prickles, the bane of foot-travellers; this ripen-

ing, divides into five cells, each containing one or two four-horned seeds." For further particulars respecting this plant, see *Hort. Cliff.* 160, and Brown's Jamaica 220. It grows on many parts of the Coromandel coast, as well as in China and Cochin-China, and according to Willdenow, *in Europa australi ad semitas.* Browne, however, according to *Lunan*, has confounded it with the *tribulus cistioides*, a mistake rectified by *Swartz.* The seeds of our article are considered by the Cochinese as possessing medicinal virtues, from their astringency being useful in dysentery, "aliis sanguinis profluviis" (Flor. Cochin-Chin. vol. i. p. 270.).

The species *tribulus maximus* is a medicinal plant of Jamaica; with it, according to Sloane *, a salve is prepared of use in cases of ring worm. There is a small variety of the *tribulus terrestris* common in the Southern tracts of the Peninsula of India, with beautiful red flowers, called in Tamool *yerra pūllĕro*, and in Sanscrit *racta suadanshtra;* its leaves have the smell of clover. The *trib. lanuginosus* is a native of India, and is called in Bengalie *gokhoor.*

CCXX.

NERVALUM COTTAY  (Tam.)

See article Croton, Purging Seed of, vol. i. p. 101.

* See Sloane's Natural History of Jamaica.

CCXXI.

NILAVEREI நிலவேரை (Tam.) *Senna.*
Cassia Senna (Wood).

So much has been said of senna in the first volume of this work, that little more is required here. I have lately been asked if what is commonly sold in the shops under the name of "East India senna" is the actual produce of our Indian dominions. No; it is not, but a product of Arabia, either of Arabia Felix (about Mocho), or from a more northern part of that country, the territory of *Abuarish*. It is, in fact, the sharp-pointed-leaved senna, the *cassia lanceolata* of *Forskāl*, which he distinguishes, "*foliis 5-jugis, lanceolatis**, *æqualibus*," and tells us that it is common at *Surdud*, and near *Mor*. The general name of senna in Arabia is *suna* سنا, but this more particularly applies to that of Yemen (Arabia Felix). What is obtained farther North, and brought to Mecca for sale, is called *suna Mecki* سنا مكى, indicative of its being sold at Mecca; it is also sometimes termed *hedjazi* حجازى†: both have sharp-pointed leaves, and are powerfully cathartic; as I have already noticed in the first volume, the senna in common use amongst the Indian practitioners is the *blunt-leaved* senna (*senna Italica*. s. foliis obtusis. Bauh. pin. 397.). It is a common plant on the Coromandel coast, but is not near so valuable a medicine as the *sharp-pointed senna* of Forskahl.

* Vide Forskahl, Descriptiones Plantarum, Floræ Egyptiaca, Arabicæ, p. 85.

† Vide Forskahl Floræ Egyptiaca, p. 66.

An alkaline substance has lately been found by MM. Lassaigne and Feneulle in the pods and leaves of senna: it is solid, yellowish-brown, of a peculiar odour, and nauseously bitter, soluble in water, alcohol, and ether; its medical properties are not yet rightly ascertained; they call it *cathartine*.

CCXXII.

NIRA POOSEE (Siam.)

This is the name of a root which Dr. Finlayson found in Siam: it is rubbed up with water and used in cases of aphthæ, commonly in conjunction with another root, *soong-koong*.

CCXXIII.

NIRPULLI  (Tam.) (Hort. Mal.) *Axillary Spiderwort.*

TRADESCANTIA AXILLARIS (Lin.).

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Ensatæ. *Winkelblutige Tradescantie* (Nom. Triv. Willd.).

Rheede* tells us that a decoction of this plant is considered as a useful remedy on the Malabar coast in cases of timpanites.

Of the essential character of the genus, Willdenow says, "*Cal.* 3-phyllus; *petala* 3; *filamenta* villis articulatis; *caps.* 3-locularis" (Spec. Plant. tom. ii. p. 16.).

* Rheede, Mal. x. pp. 25 — 28. t. 13.

The species * in question is called *bgha-nulla* in Hindoostanie: it is an annual plant, with a stem, creeping at the base, but soon ascending. *Kœnig* informs us, that the *leaves* are linear, acute-spreading, having coloured sheaths, ciliate, with long hairs; the *flowers* are axillary and solitary; the *calyx* three-parted and keeled, corolla one-petalled, of a funnel form, and deep-blue colour; the *tube* twice as long as the calyx; *segments* three, shorter, blue; *filaments* with jointed hairs; *style* club-shaped. The plant is a native of the Malabar coast.

Four species of it are indigenous to Jamaica†, and are there considered to have virtues against the poisons of all sorts of spiders. Five species are growing in the botanical garden of Calcutta.

CCXXIV.

NITTAH, or MITHA BISH (Sans.) *Jáhár* (Hind.)

This substance was brought to Dr. F. Hamilton while in Behar, where he was told that in about the quantity of one grain it is serviceable in the worst stages of typhus fever: the professional men of that district informed him, that it was a poison to all animals, man excepted. What it may be in a botanical point of view does not appear. Hamilton's MSS.

* Five species of tradescantia grow in Ceylon. The species Malabarica (the *tali-pulli* of Rheede) is quite common in most parts of India.

† Barham, p. 177., also Flora Jamaicensis, vol. ii. p. 189.

CCXXV.

NOOCHIE நொச்சி (Tam.) *Nirgundi* (Beng.) *Shumbalie* شنبالي (Duk.) *Fenjengisht* فنجنكشت (Arab.) *Nisinda* (Hind.) پنج انگشت (Pers.) *Wayalakoo* (Tel.) *Sinduya* (Sans.), also *Sindhooka* (Sans.) *Five-leaved Chaste Tree.*

VITEX NEGUNDO (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Negundo-mullen* (Nom. Triv. Willd.).

The essential character of the genus has been given under article *Neer-Noochie;* see p. 237.

The medicinal qualities of the plant in question are similar to those of the *vitex trifolia*, but somewhat weaker; the dose of the decoction of the root is about half a tea-cupful given twice daily: it is a pleasant bitter, and is administered in cases of intermittent and typhus fever.

The *vitex negundo* is the *thuoc-on-rung* of the Cochin-Chinese, the *hemnosi* of Rheede (Mal. ii. p. 15. t. 11.), the *lagondium litoreum* of Rumph. (Amb. iv. p. 50. t. 19.), and the *sudu-nika* of the Cyngalese. "It has an arboreous twisted stem, about the size of the human arm, rising ten feet high, with a grey bark; the leaves, which are from one to three inches long, are opposite, on long foot-stalks, they are quinnate, and ternate-serrate, and have a pleasant smell; the flowers, which are of a purplish colour, are raceme-panicled; the calyx, corolla, and fruit, resemble those of the *vitex trifolia.*" The plant is a native of China

and Cochin-China, as well as Ceylon and Southern India: it is the "*vitex trifolia Indica cordata*" of *Burm.* (Zeyl. p. 229. R) My friend Mr. Sherwood tells me that the leaves simply warmed he found an excellent application in cases of rheumatism or sprains. The Mahometans are in the habit of smoaking the dried leaves in cases of head-ache and catarrh. Dr. F. Hamilton found the dried fruit considered as vermifuge in Behar. MSS.

Nine species of vitex are growing in the Honourable Company's botanical garden at Calcutta, natives of India. See Hortus Bengalensis, p. 46. Six species grow on Ceylon.

CCXXVI.

NOONA MARUM ELLEY நுனைமரமெலை (Tam.), also *Nona marum elley. Chota ālka paat* چھوٹا لال کاپات (Duk.) *Mólooghoodoo ākoo* (Tel.) *Kleebā* (Sans.) *Leaf of the narrow-leaved Morinda.*

Morinda Umbellata (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Aggregatæ. *Doldenblutige Morinde* (Nom. Triv. Willd.).

There are two varieties of this tree in India; our present article is the lesser, and would appear to be the *bancudoo lakki* of the Malays. The lanceolate-ovate leaves of it, in conjunction with certain aromatics, the Tamool doctors use in decoction, in cases of diarrhœa and lientery, in the quantity of half a tea-cupful twice daily.

Of the essential character of the genus, Willdenow

says, "*Flores* aggregati, monopetalei; *stigma* 2-fidum; *drupæ* aggregatæ." Spec. Plant. vol. i. p. 991.

The *noona* is the *cay nge-ba* of the Cochin-Chinese, and the *bancuda angustifolia* of Rumphius (Amb. iii. p. 157. t. 98.), but Willdenow seems inclined to consider it rather as a variety of the *morinda citrifolia* than a distinct species: "*est potius varietas sequentis vel nova species.*" Its root (as well as that of the *morinda citrifolia**, the *cay-nhau* of the Cochin-Chinese, and *ahugaha* of the Cyngalese, and which, by the way, the Tamools also call *noona márám*) is used in many parts of India as a red dye, but we shall say more of its use in the arts in another part of this work. Willdenow has hitherto noticed but three species of morinda, viz. the two above specified, and the *morinda royoc:* this last is an American plant, but is also a native of Jamaica, where, according to Browne (p. 159.), its roots are employed for dyeing linens of a dark hue. *Buchanan*, in his "Journey through Mysore, &c." speaks, however, of a fourth species, on which he has bestowed the appellation of *m. ternifolia;* the root of which, he informs us, is considered as a valuable red dye in the central tracts of the Peninsula. The species citrifolia the Cochin-Chinese place amongst their medicinal plants, believing the fruit to be deobstruent and emmenagogue, "in dysuria dolorem mitigat." Flor. Cochin. Chin. vol. i. p. 140.

In the Flora Zeylanica, 81 and 82, both species (m. umbellata, and m. citrifolia) are noticed; of the first it is said, "M. erecta, foliis lanceolato-ovatis, pedunculis *confertis;*" of the other, "M. ar-

* This root is called in Mysore, where it is much prized, *muddi;* in the Sumatran language it is termed *macudoo.*

borea, pedunculis *solitariis.*" The last is the *coda pilava* of Rheede (Mal. i. p. 97. t. 52.), and may be found described at length by Gærtner, in his work, "De Fructibus et Seminibus Plantarum." The morinda umbellata is common in the woods of Cochin-China. Loureiro informs us, that a decoction of the root is an excellent and permanent yellow dye: it is also, he says, a red dye, with the addition of a little sappan wood. Flor. Cochin-Chin. vol. i. p. 140.

CCXXVII.

NULL UNNAY நல்லெண்ணெய் (Tam.) *Munchie noonay* (Tel.) *Mitta tail* میٹھا تیل (Duk.) *Oil of the Oriental Sesamum*, or *Gingilie Oil.*

SESAMUM ORIENTALE (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Luridæ. *Orientalischer Sesam* (Nom. Triv. Willd.).

This fixed or expressed oil, besides being eaten by the natives, is used in medicine * in cases where cooling and bland oils are required; it is obtained, by expression, from the seed, called in Tamool† *yelloo;* in Guzerattie *tal;* in Hindooie *till;* in Dukhanie باریک تل; in Tellingoo *noowoloo;* in Arabic سمسم *sumsum;* in Persian کنجد *kunjid*; in Canarese *ellu;* and in Sanscrit *taila.* The seeds are whitish,

* It is considered, by some native practitioners, to possess emmenagogue virtues, and to be capable, if incautiously used, of causing abortion.

† There is a dark-coloured and somewhat larger variety called in Tamool *car yelloo*, also a white sort termed *sambranie yellow* and *vullay yelloo.*

not larger than those of the mustard plant, flat, and heart-shaped, and are used as food by the Hindoos, after having been toasted and ground into meal, which meal is called in Arabic رهشي *rehshee*. The expressed oil, when fresh, has a very pleasant taste, and is much employed by the Indians in preparing their victuals; it is highly estemed by the Japanese, who cultivate the seed from which it is obtained in great abundance. On Java the plant is named *Weed-shen*; it is the *salit* صليط of Forskahl, or rather he found it growing in Lower Egypt, under that name. Virey, in his "Histoire Naturelle des Medicamens,"* tells us, that the seed "est visqueuse, emolliente, paregorique, utile dans les coliques, et autres douleurs." The French of Eastern countries call the plant Jujeoline; the Japanese *goma gara*.

Our present article, which is the *schit-elu* of the Hort. Mal. and, according to *Dierbach*, the Σήσαμον of Hippocrates, and another species, the *sesamum Indicum*, are cultivated much in Jamaica. Lunan† says, from the authority of Barham (p. 121.), that the seed and herb itself, boiled in honey, make a good cataplasm for indurated tumours. In Greece the seeds are made into cakes, and, according to Sir H. Sloane, what is called the *bean* or *mandarine broth* of China, is nothing else than an emulsion made of these seeds and hot water. There is a kind of oil much used in dressing food in Mysore; and obtained from seeds, called by the Canarese *huts yelloo*, and in Dukhanie رام تيلا *ram tilla*. It is got from no species of sesamum, but from the *verbesina sativa* of Roxburgh. Dr. Heyne seems to have thought that this plant was

* Page 186.

† See Flora Jamaicensis, vol. ii. p. 252.

peculiar to the Bengal provinces, and not known on the coast, but he was mistaken; he speaks of it under the Indian name of the *werinnua*, and has given a minute botanical* description of it; he adds, that the oil expressed from the larger seeds is the common lamp oil of Upper India, and that it is extremely cheap.

Of the essential character of the genus sesamum, Willdenow says, "*Cal.* 5-partita; *cor.* campanulata, 5-fida; lobo infimo majore; *rudimentum* filamenti quinti; *stigma* lanceolatum; *caps.* 4-locularis" (Spec. Plant. vol. iii. p. 358.).

Of the species which produces the gingilie oil, I shall only mention that it is an annual plant, rising to the height of two feet, with an herbaceous four-cornered *stalk*; *leaves* opposite, petioled, ovate-oblong, entire; and *flowers* axillary and solitary; these are of a dirty white colour, and shaped not unlike that of the foxglove. The sesamum orientale is the *gomo*, also *gomo gara* of the Japanese, and the *cay-me* of the Cochin-Chinese, who consider the oil as resolvent, and to be particularly indicated in convulsions (Flor. Cochin-Chin. vol. ii. p. 382.). The plant is the *teltala* of the Cyngalese.

CCXXVIII.

NUNDIAVUTTEI நந்தியாவட்டை (Tam.) also (Tel.) *Nandivriksha* नन्दिवृक्ष (Sans.) *Broad-leaved Rosebay.*

Nerium Coronarium (Jacq.).

* See Heyne's Tracts on India, p. 49.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ. *Breitbattriger Oleander* (Nom. Triv. Willd.).

The juice of the white leaves of this handsome shrub, the Hindoo doctors drop into the eyes in cases of ophthalmia; it is supposed to be of a very cooling nature.

Of the essential character of the genus, Willdenow observes, "*Contorta*; *folliculi* 2, erecti; *sem.* plumosa; *cor.* tubus terminatus corona lacera." Spec. Plant. vol. i. p. 1234.

The species in question is of a milky nature, and rises to the height of about five feet, with an ash-coloured bark. The leaves are elliptic, peduncles in pairs, from the forks of the branches; two flowered.* The flowers, though beautiful, are without odour, unless it be in the morning early; the perianth is green; tube of the corolla a greenish yellow, and the boarder snow white. The plant is common in many parts of India, and is the *nandi-ervatam* of Rheede (Mal. ii. p. 105. t. 54. and 55.), the *flos manilhanus* of Rumph. (Amb. iv. p. 87. t. 39.), and the *jasminum Zeylanicum folio oblongo, flore albo pleno odoratissimo* of Burm. (Zeyl. 129. t. 59.) Our article with seven other species are growing in the botanical garden of Calcutta.

* See Willdenow, vol. i. p. 1236.

CCXXIX.

NURRI-VUNGYUM நரிவெங்காயம் (Tam.) *Junglie piaz* جنگلي پياز (Duk.) *Squill, substitute for.*

ERYTHRONIUM INDICUM (Rottler.).

See article Squill, at p. 402 of Vol. I.

CCXXX.

NUTTEI CHOORIE VAYR (Tam.) *Madana ghenti* (Tel.) *Madana-bunta-kada* (Hort-Bengal.) *Madana ghanti* मदन घन्ति (Sans.) *Root of the Shaggy Button Weed.*

SPERMACOCE HISPIDA (Lin.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Stellatæ. *Borstiger Zahnwirbel* (Nom. Triv. Willd.).

This root, as it appears in the medicine bazars, is a little thicker than our sarsaparilla, and not unlike it in taste; it is also used for similar purposes; viz. as an alterative and purifier of the blood; given in decoction to the quantity of about four ounces or more daily.

Of the genus, Willdenow says, "*Cor.* 1-petala, infundibulif; *Sem.* 2, bidentata."

The species * in question, which is the *heen-modoo gætakola* of the Cyngalese, is an annual plant, with

* Eight species are growing in the botanical garden of Calcutta; but two appear, by Moon's Catalogue, to be natives of Ceylon.

diffuse, obsoletely, four-sided, hairy branches; *leaves* obovate, cuneate, waved, and scabrous; *flowers* verticelled, two, three, or four in each axil; *tube* of the corol. twice the length of the calyx; *stamens* and *style* erect.* Roxburgh speaks of it under the Telingoo name of *madana-bunta-kada*, and tells us, that it is common in sandy places near the sea on the Coromandel coast; it is the *galiopsis Zeylanica* of Burman (Zeyl. 163. t. 20. f. 3.), and apparently the *tardaul* of Rheede (Mal. ix. p. 149. t. 76.). Of the genus there are five species natives of Jamaica, but none of them are considered as medicinal.

CCXXXI.

ODALLAM (Malayalie). *Cāāt aralie* (Tam.) *Mango-like Cerbera.*

CERBERA MANGHAS (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ. *Ostindischer Schellenbaum* (Nom. Triv. Willd.).

Odállam, or, as Rheede has it, *odollam* (Mal. i. p. 71. t. 39.), is the name given on the Malabar coast to a milky tree, the seeds of the fruit of which are powerfully narcotic, resembling in their effect that arising from the datura. The fruit itself is not unlike a mango both in colour and shape, but has one side more concave than the other; the seeds, which are two in number, are the size of large chesnuts. Dr. Horsfield informs us, in his account of

* See Roxburgh's Flora Indica, p. 379. vol. i. ii.

the medicinal plants of Java *, that the leaves and bark are both considered on that island as purgative; and that the fruit is externally applied as a cataplasm in diseases of the skin. Virey †, in his "*Histoire Naturelle des Médicamens*," notices the same virtues in the bark, adding, that the fruit is emetic.

The *cerbera manghas* is the *manghas lactescens* of Burman (Zeyl. 150. t. 70. f. 1.), and the *arbor lactaria* of Rumphius (Amb. ii. 243. t. 81.), who speaks of the bark as being powerfully cathartic. It moreover appears to be the cerbera salutaris of Loureiro, the *gonkaduru* of the Cyngalese, the *bintaro* of the Javanese, and the *cay-muop-sac* of Cochin-China, where it grows near the sea-shore. Vide Flor Coch. Chin. (vol. i. p. 136.) I am much inclined to think, that it is this tree which Avicenna (152) mentions under the Arabic name of جبلا هنك *jubla hunk*, adding, "Arbor venenata lactescens Indica, flore luteo, cujus succus inspissatus cum turbith congruat;" and I shall take this opportunity of stating, as I have had occasion to mention this celebrated Arabian physician and author, that his writings are known in Eastern countries, under the name of قانون في الطب *canooni fill tibb;* they treat of medicine and diseases in general, and the qualities and virtues of compound and simple medicines, and also of anatomy. The work consists of twelve books, by the author *Abu Aly Hussein Ben Abdalla Ben Sina* (Avicenna), who was born in the city of Bokhara, A.D. 980, and died at Hamadan, A. D. 1036. An edition of his writings was printed at Rome, in 1595, afterwards

* See Asiatic Journal for March 1819, p. 262.
† See Histoire Naturelle des Medicamens, p. 192.

translated into Latin, and published at Venice, in 1608.

Of the essential character of the genus, Willdenow observes simply, "Contorta *drupa* monosperma" (Spec. Plant. vol. i. p. 1222.).

The species in question, which grows in sandy situations on the shores of Singapore, and some of the adjacent islands, has *leaves* closely approximate, scattered, oblong, acute, attenuate, downwards; *laciniæ* of the *corolla* ovate, with an incurved, subretuse apex. The tree is rather small, and the branches remarkably thick and subcylindric; *drupes* two, ovate, oblong.*

I shall conclude what I have to say of this article, by mentioning what Dr. Horsfield relates in speaking of the fruit of the *cerbera manghas* in Java. I quote his words: "I was once witness of the effects of a small dose upon a Javanese woman, who had swallowed, out of curiosity, about a scruple of the external part of the fruit, in the absence of her *dukung* (physician); it produced partial delirium; she could no longer distinguish the persons and objects that surrounded her, but retained the faculty of speech†; and so far corresponding with Avicenna's جبل هنک.

* The reader must observe, that the plant here described is the cerbera manghas, Roxburgh (Flor. Ind. vol. ii. p. 529.). The cerbera odollam, mentioned at page 529. of the work just quoted, is a different plant, being a large tree with alternate lanceolate leaves, crowded about the ends of the branchlets, and having large, white, fragrant-smelling flowers. Odallam is, therefore, perhaps, not the proper name to have bestowed on the milky narcotic species, but it was long known by that appellation, till more accurate botanical examination ascertained distinctions.

† See Horsfield's account of Java medicinal plants, in the Asiatic Journal for March 1819.

CCXXXII.

ORK JENA عرق جناح (Arab.).

A root mentioned by Forskahl, in his Mat. Med. Kahirina; used in cases of colic.

CCXXXIII.

OODOOMBOO உடும்பு (Tam.) *Ghore pore* کھوڑ پوز (Duk.) *Ooodoomoo* (Tel.) *Zip* (Arab.) *Ghoda Sala*, also *Gaudhēra* गौधेर (Sans.) *Guana.* LACERTA IGUANA (Shaw.).

The body of the dried guana, made into an electuary with a certain portion of *ghee* (clarified butter), the *Vytians* recommend as a strengthening medicine in consumptive complaints, and for that state of debility into which camel-riders often fall, from the shaking and sickening* motion of that large animal. The head, tail, and feet of the guana are not employed in medicine.

The guana of India is generally found about old walls and ruinous buildings; it is about two feet long, and very much resembles in shape the *lacerta alligator;* the belly is protuberant; the tail long and round, thick at its commencement, and tapering gradually towards a sharp point; its back, tail, and throat are serrated, and its whole surface is covered with

* It is a curious fact, that camel-riders seldom attain to a great age: this is not the case with those who conduct elephants, the motion of that animal being altogether different.

numerous shining scales, reflecting various colours in sun-shine. The flesh is relished by the Mahometan inhabitants of India, and is supposed to be very strengthening; in the West Indies it is even salted and barrelled up for exportation. This animal may with care be made so tame, that it will follow a man like a dog. The animal lays between fifty and sixty eggs, which, at Panama, and other parts of South America, are considered as great delicacies. An old Spanish writer, Herrera *, tells us, that in the city of Mexico guanas are brought to market for sale as food; the Spanish say, that the flesh tastes like that of pheasants; I myself have eaten in India soup made of the guana, and found it far from unpalatable. Virey, in his Histoire des Médicamens, tells us, that in America the flesh is considered as antivenereal and purifying. See work (p. 117.).

CCXXXIV.

OODERIE VAYNGHIE (Tam.) *Peet shala* (Hind.) *Yeangasha* (Tel.) *The Walleted Pterocarpus.*

PTEROCARPUS MARSUPIUM (Roxb.).

This is a very beautiful large tree, common in the mountainous tracts of the Coromandel coast, from which there exudes, at particular seasons, a reddish gum-resin, which, as well as the bark of the tree, the natives suppose to have virtues in the tooth-ache.

Of the essential character of the genus, it has been said, "*Calyx* a one-leafed perianth, five-toothed;

* See his History, vol. ii. p. 14.

corolla papilionaceous; *stamens* ten filaments, with roundish anthers; the *pistil* has a roundish germ, awl-shaped style, and simple stigma; the *pericarp* a sickle-shaped legume; seeds few, solitary."

Of the species in question, Willdenow observes, "*Arbor* magno, ligno duro, aurantii coloris; *folia* pinnata, foliolis ellipticis, alternis, petiolatis, emarginatis; *panicula* terminalis ampla; *flores* albi; *filamenta* decem in cylindrum bipartitum connata; *legumen* falcatum acutum ala cinetum, mono vel dispermum." I shall only add, that the leaves are most perfectly oval, about three inches long, and not quite two broad. The tree * is of the Cl. and Ord. Diadelphia Decandria. Nat. Ord. *papilionaceæ*; and to it Willdenow has given the trivial name of *ausgerandete flugelfrucht*. It may be found minutely described in Roxburgh's Coromandel Plants (ii. p. 9. t. 116.).

The species draco is common at Java, and is there called *sono-ansana;* its exudation, *dragon's blood*, the natives consider as tonic.

CCXXXV.

OOMATAY, or OOMATIE, *Thorn Apple*,

Is the general Tamool name for all the daturas in Lower India. The d. fastuosa is called *karoo oomatay* கருவூமாமதயை (Tam.), or black datura, and is that sometimes smoked for asthma; the *vullay oomatay*, or white datura, is the datura metel; and the *mungil oomatay*, or yellow-flowered datura, is the

* It is not unfrequently made into rafters for crossing rivers.

datura ferox, which is also occasionally smoked, and the leaves of which are sometimes employed to make arrack more intoxicating. See article Thorn Apple (vol. i. p. 442., also at p. 636., vol i.).

In the datura stramonium Brandes has discovered a new principle, to which he has given the name of *daturine*.

CCXXXVI.

OOGHAI PUTTAY உகாபட்டை (Tam.) *Ghoonie putta* (Tel.) *Bark of the Persian Salvadora.*

SALVADORA PERSICA (Vahl.).

Cl. and Ord. Tetrandia Monogynia. Nat. Ord. Atriplices. *Persiche Salvadore* (Nom. Triv. Willd.).

This bark, which is a little warm and somewhat acrid, is recommended by the Hindoo doctors, in decoction, in cases of low fever, and as a tonic and stimulant in *amenorrhœa*. The bark of the root, when fresh bruised, acts as a vesicatory. The small, red, edible berries, have an aromatic smell and taste, not unlike the garden cress. The dose of the decoction is half a tea-cupful twice daily.

Of the essential character of the genus, Willdenow says, "*Cal.* 4-fidus; *corolla.* 4-fida; *bacca* 1-sperma; *sem.* arillo vestitum." (Spec. Plant. vol. i. p. 695.).

The species in question, which is the *rivina paniculata* of the Syst. Nat. (x. p. 899.), is the *pilu* of the Hindoos of Upper India, and is mentioned by *Fors-*

kahl * (Desc. p. 32. n. 8.) under the name of *cissus arborea*. It is a middle sized tree, a native of most parts of the Circars, though Roxburgh tells us, by no means common; it is also a native of the Persian Gulph, and for the most part rises to the height of about ten feet, with a crooked *trunk*, which is one foot in diameter; *bark* scabrous and cracked; *branches* numerous, spreading, and their extremities pendulous, like those of the weeping willow; *leaves* opposite, petioled, oval or oblong, shining on both sides, and from one to two inches long, and one broad; *flowers* minute, very numerous, and of a greenish yellow; the *berry* very minute, much smaller than a grain of pepper, smooth, red, juicy, with *one* seed. † It would appear that the tree has another Telingoo name besides that given above, as Roxburgh calls it *pedda-warago-wenki* (Tel.). See Hort. Bengalensis, p. 83. ‡

CCXXXVII.

ORILATAMARAY ஒரிலதாமரை (Tam.) *Rúttún pūrúss* رتن پورس (Duk.) *Poorusharatanum* (Tel.) *Chāratī* चारटी (Sans.) *Suffruticose Violet.* VIOLA SUFFRUTICOSA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Campananceæ. *Strauchartiges Veilchen* (Nom. Triv. Willd.).

* For an account of the virtues of this plant, according to the notions of the Cochin-Chinese, see article *Ark* or *Ork* of this Part of the work; the edible fruit is the كباث of the Arabians.

† See Flora Indica, vol. i. p. 404.

‡ Our article is growing in the botanical garden of Calcutta. Two species are natives of Ceylon.

The leaves and tender stalks of this low-growing violet are demulcent, and are used by the natives in decoction and electuary; they are also employed, in conjunction with some mild oil, in preparing a cooling liniment for the head. Of the decoction about an ounce and a half is given, twice daily.

Of the essential character of the genus, Willdenow says, "*Cal.* 5-phyllus; *cor.* 5-petala irregularis postice cornuta; *anth.* cohærentes; *caps.* supera, 3-valvis, 1-locularis" (Spec. Plant. vol. i. p. 1159.).

Our present article the *mahayotu-weenna* of the Cyngalese, is a rugged and somewhat prickly procumbent *herb*, much branched, and hard, as in the *Helianthemum*, with *leaves* lanceolate, subserrate, clustered, and *calyxes* equal behind. See Flor. Zeylan. (318.) It is common in the Southern tracts of India, and has a small crimson flower much like that of the *viola enneasperma*, which is the *nelam-parenda* of Rheede (Hort. Malab ix. 117. t. 60.).*

CCXXXVIII.

PAAK பாக்கு (Tam.) *Supéārie* سوپياري (Duk.) *Fooful* فوفل (Arab.) *Vukka* (Tel.) *Puwāk* (Cyng.) *Penang* (Malay.) *Jambi* (Jav.) *Kramuka*† क्रामुक also *Guvāka*† गुवाक (Sans.) *Betel Nut.*

Areca Catechu (Lin.).

* Of this plant Roxburgh says, "*Stem* scarcely any, but many diffuse, round, smooth *branches*; *leaves* alternate, subsessile, lanceolate; *stipules* small, and *peduncles* axillary, solitary, and one-flowered; petals five, rosy." Flor. Ind. vol. ii. p. 447.

† The two Sanscrit names apply to the tree only: the fruit is called उद्वेग.

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Palmæ. *Gemeine Arecapalme* (Nom. Triv. Willd.).

The betel nuts, *when young and tender*, are, in conjunction with other articles, occasionally made into decoction, and prescribed for such people as suffer from costiveness consequent of dyspepsia; the dose about half a tea-cupful twice daily. When full grown they are chewed with the betel leaf, which is the leaf of the *piper betel*, and their common name in commerce is *kali-paak*.

Of the essential character of the genus, Willdenow says,

"Masculi. *Cal.* 3-partitus; *cor.* 3-petala; *stam.* 6-basi cohærentia.

"Feminei. *Cal.* 3-phyllus; *cor.* 3-petala; *nect.* 6-dentatum; *styl.* 3-brevissimi, drupa monosperma" (Spec. Plant. vol. iv. p. 594.).

The species in question is the nux faufel of Bontius, the *pinanga arica* of Rumph. (Amb. i. p. 26. t. 4.), the *pin-lam* of the Cochin-Chinese, and the *launga* of Rheede (Mal. i. p. 9. t. 5, 6, 7, 8.). It is a palm which grows to the height of fifty feet or more; it has no branches, but its leaves are very beautiful, forming a round tuft at the top of the trunk, which is usually about six or eight inches in diameter, straight, round, and marked with parallel rings.

"The fronds, which are pinnated, spring forth in pairs, decussated, encircling the top of the trunk at their base, and thus producing an oblong head, larger than the trunk itself; they are not more in number than six or seven, unarmed, reclining, six feet long, on a stipe four feet in length. These fronds break and fall off in succession, and from their axils issue the sheaths which inclose the flowers and fruits. The fruit is a drupe of an ovate form, smooth, about the

size of a pullet's egg, and does not fall from the tree even when ripe, in which state it is astringent, but not unpalatable; it has a yellowish shell, which is thin, brittle, white, with arched red veins cohering with the pulp all round."

The betel nuts, *when dry*, are consumed in great quantity, in India, being chewed with the betel leaf as a luxury; the nuts are usually cut into four equal parts, one of which is put into a leaf, over which a little quick lime * (chunam) is laid, then rolled up and chewed altogether. This provokes much spitting of a reddish-coloured saliva, occasioned by the areca. The Indians have an idea, that by this means the teeth are fastened, the gums cleaned, and the mouth cooled.

The betel nut tree grows in most parts of India; the produce is also brought to that country from Achin, † Malacca, Borneo, ‡ and Cochin-China. Besides the purposes already mentioned, it may be observed here, that a strong decoction of the nuts is used in dyeing. A red variety is common at Joanha, and in Malabar, there employed in dyeing that colour. The average number of nuts growing on one tree, on the Coromandel coast, is usually about three hundred.

The Arabian writers mention the areca nut frequently in their works: Avicenna § under the name of رعبه; Serapio || under that of فوفل; both con-

* In some parts of India, as in Canara, in place of quick-lime they use the ashes of the bark of a common tree (*chuncoa muttia*) (Buch.), these ashes they call *mutti*. See Buchanan's Journey through Mysore and Canara, vol. iii. p. 202.

† See Elmore's Guide to the Indian Trade, p. 59.

‡ See Dr. Leyden's sketch of that island, in the seventh volume of the Transactions of the Batavian Society.

§ See Avicenna, 236.

|| See Serapio, cap. 345.

sidered it as astringent and tonic. In the West Indies they suppose that the juice of the dry, ripe nut, mixed, as above noticed, with the leaf, and a small quantity of lime, strengthens the stomach when swallowed, but that when taken by itself it impoverishes* the blood, and causes jaundice. I shall conclude, by here stating, that the modern Arabs, while they occasionally chew the betel nut in the same manner as the Indians do, would seem to give a preference to what they call كاد *kad*, an appellation given to the buds of a plant they term ڤاجا; this, they think, sweetens the breath, and preserves the gums.

Loureiro, in his Flor. Cochin-Chin. vol. ii. p. 567. gives a full account of the virtues of the areca catechu; he also notices another species, areca silvestris (cay-rung), the leaves of which are chewed with the betel nut. Three species of areca grow in Ceylon.

CCXXXIX.

PADDICARUM படிகாரம் (Tam.) *Alum.*
ALUMEN.

In addition to what I have said of alum, in the first volume of this work, I shall here observe, that the native practitioners use it for nearly the same purposes that we do, as an astringent in repellent lotions and collyria. For the different oriental names, the reader is referred to the volume just mentioned. Chemically, it may be said that alum dissolves in about five parts of water at 60°, and the solution reddens

* See Lunan's Hortus Jamaicensis, vol. i. p. 86.

blues; in its crystaline form, R. Phillips, by recent experiments, found it consisted of *two* proportions of sulphate of alumina, *one* of bi-sulphate of potass, and *twenty-two* of water. See Brande's Manual of Chemistry vol. ii. p. 310.

CCXL.

PADRIE VAYR பாதிரிவேர (Tam.) *Kálighotoo* (Tel.) *Root of the Chelonoid Trumpet-Flower.*

BIGNONIA CHELONOIDES (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Bignoniæ (Juss.) *Schildblumenartige Trompetenblume* (Nom. Triv. Willd.).

This pleasant-tasted root, as well as the fragrant flowers of the tree, the *Vytians* prescribe in infusion as a cooling drink in fevers. Rheede, who speaks of the tree under the name of *padrie*, informs us*, that the juice of the leaves, mixed with lime-juice, is of use in maniacal cases: of the infusion above noticed the dose is about half a tea-cupful twice daily.

Of the genus, Willdenow says, "*Cal.* 5-fidus, cyathiformis; *cor.* fauce campunalata, 5-fida, subtus ventricosa; *siliqua* 2-locularis; *sem.* membranaceo-alata." Spec. Plant. (vol. iii. p. 289.)

The species in question is the *ela-palol* of the Cyngalese: it is a large tree, with a whitish ash-coloured bark, with spreading *leaves*, petioled, with about five pairs of opposite petioled *leaflets; panicle* terminating; *pedicels* opposite, dichotomous; *flowers*

* See Hort. Mal. (vi. pp. 47, 48. t. 26.)

solitary from the divisions; *calyx* hoary; border of the *corolla* a little arched, rough with hairs, red cleft.* The beautiful purple sweet-smelling flowers of the *bignonia chelonoides* are amongst those which the Hindoos think are acceptable to their gods, and are in consequence offered by them at their temples; when immersed in water, they give it an agreeable odour.

Sir William Jones, in the fifth volume of his works (p. 133, 134), gives us a description of a plant called in Sanscrit *patali*, and in Hindoostanie *parala*, which resembles in many respects the *padrie* of the Coromandel and Malabar coasts; but the pericarp and the form of the seeds are very different. Of this genus four species grow in Jamaica; one of which, the *bignonia leucoxylon* or *white-wood*, is medicinal, and is particularly noticed by Sloane in his *Catalogus Plantarum Jamaic.*, the bitter juice and tender buds of it are supposed there to be an antidote against the poisonous juice of the Manchioneel.† Another species, the *b. longissima*, is considered one of the most useful timber trees in the West Indies, and is pe liarly distinguished by its beautiful numerous flowers and slender siliques: the French call it *chéne noir*. Four species of bignonia appear to be natives of Ceylon (Moon's Catalogue, p. 45.). Three are natives of Japan, and three of Cochin-China. Flor. Coch. Chin. (vol. ii. p. 378.)

* See Willd. Spec. Plant. tom. iii. p. 305.

† See Lunan's Hortus Jamaicensis, vol. ii. p. 279.

CCXLI.

PALOOPAGHEL KALUNG பாலுபாகல்கா கலுகு (Tam.) *Agokara*, also *Angākárá gudda* (Tel.) *Root of the Dioicus Momordica.*

MOMORDICA DIOICA (Roxb.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ. *Getrenter Balsamapfel* (Nom. Triv. Willd.).

This mucilaginous-tasted root, the Hindoo doctors prescribe in the form of electuary in cases of bleeding-piles, and in certain bowel-affections connected with such complaints: the dose about two drachms or more twice daily.

Of the essential character of the genus, Willdenow says,

"MASCULI. *Cal.* 5-fidus; *cor.* 5-partita; *fil.* 3.

"FEMINEI. *Cal.* 5-fidus; *cor.* 5-partita: *stylus* 3-fidus; *pepo* elastice dissiliens." Spec. Plant. vol. iv. p. 601.

Of the species itself, the same author observes, "Pomis ellipticis muricatis, floribus diocis, foliis cordatis acuminatis dentatis." Again, "*Caulis* scandens angulatus; *folia* cordata indivisa acuminata dentata utrinque glabra bipollicaria; *cirrhi* oppositifolii simplices fileformes; *flores* dioici, feminei axillares solitarii; *fructus* magnitudine primæ speciei ellipticus tuberculis acutis densissime obsitus." See Spec. Plant. vol. iv. p. 605.

The plant, the Sanscrit name of which is *vahisee*, and the Cyngalese *tumba-karawilla*, is a native of the Coromandel coast, and its fruit is considered amongst

the pot-vegetables of the Hindoos, though it is not held by them in so much estimation as the produce of another species, of which there are two varieties in India, the *momordica charantia* or hairy momordica; nay, I believe, there is also a third species used for similar purposes, the *momordica muricata*, which is the *pavel* of Rheede (Malab. viii. p. 19. t. 10.). In the western world there are two species of this genus (both annuals), considered as medicinal: they are not, however, natives, but introduced from India; I mean the *momordica balsamina* and *mom. charantia*. The fruit of the first, *Hasselquist* informs us, in his *Iter Palestinum*, is famous in Syria for curing wounds; it is a fleshy ovate berry, ending in acute points. The natives cut it open and infuse it in sweet oil, which they expose to the sun for some days, until it becomes red, and then preserve it for use; dropped on cotton, and applied to a fresh wound, they consider it as a vulnerary little inferior to the balsam of Mecca. Of the second (which is the *pandipavel** of Rheede, Mal. viii. p. 17. t. 9.) and the *amara Indica* of Rumph. (Amb. v. p. 410. t. 151.), Browne, in his History of Jamaica, tells us, that at Kingston in Jamaica, the boiled leaves, as well as a decoction of the plant itself, are equally used to promote the lochiæ.

From the *Hortus Bengalensis* we learn that seven species of momordica are now growing in the Company's botanical garden at Calcutta, all natives of different parts of India. (See work, p. 70.)

* Of this, the mom. charantia, more will be said in another part of this work; it is the *muop-dang* of the Cochin-Chinese, who prize the fruit much as a pot-herb; the pagulkāi of the Tamools, and the *kariwila* of the Cyngalese.

CCXLII.

PAILLIE (Tam.) *Bullie* (Tel.) *Musalī* मुसली also *Sarata* सरट (Sans.) *Chilpāsah* چلپاسه (Pers.) *Chapkalī* چپکلي (Duk.) *Chipkulee* (Hind.) *Gecko* (Lizard).

LACERTA GECKO (Shaw).

The bruised body of this animal, made into electuary, in conjunction with certain aromatics, the Hindoo doctors think possesses virtues in leprous affections: this notion seems to us the more extraordinary, when we are informed that one of the causes assigned for the *Cochin leg* (elephas), that morbid enlargement of the limb so common in Eastern countries, is the licking with the tongue of a species of lizard, which the native practitioners reckon as poisonous, and which is termed in Tamool *paumboo-aranay;* nay, I know, that a very unpleasant scurfy and slightly itchy eruption is certainly produced by the acrid water or juice which a lizard secretes, the best remedy for which is frequent washing with soap and water, and a subsequent application of a little castor-oil; maladies of this nature are fully treated of in a work in high Tamool, entitled *Aghastier Ahirum.*

The gecko is apt to be confounded with a variety of the common grey lizard (lacerta agilis), and the natives sometimes indiscriminately give the same names to both; but the first is much larger, makes a strange chucking noise, especially in the evenings, is not so lively, and on a minute examination will be found otherwise very different; so much so, that lately it has been placed in a different genus. The geckos are found in South America, Africa, China, and

the East Indies, and are distinguished by the noxious fluid they secrete: the head is thick, muzzle taper, tongue thick, flat, and slightly cleft at its tip, eyes like the chameleon's, body long and thin, tail commonly cylindrical; the feet have five broad toes, flattened along their margins, and of a light-grey colour. What is singular in the gecko lizard is, that it can walk down the smoothest chunam walls, which it does in search of flies; how it accomplishes this, by its anatomical formation, is fully explained in a very interesting paper by Sir Everard Home, to be found in the Phil. Trans. for 1816 (p. 149.). Mr. C. Stewart, in his Elements of Natural History, informs us, that with the acrid fluid secreted by the gecko lizard the Japanese poison their arrows. The lacerta agilis, or grey lizard, is comparatively innocent, is very lively, is quite dumb, and has the back marked with a longitudinal dotted brownish line, tongue forked, and capable of being thrust out of the mouth; the tail is at least as long as the body, quite cylindrical, and composed of gombo rings, while the belly is covered with imbricated scales. In Europe the internal use of the common green lizard had been extolled in cases of leprosy, scrophula, and cancer (see Flores Specifique nouvellement decouvert, &c. Lausanne, 1785.); but from trials made of it by Carminali, its virtues appear to be very doubtful. Virey, in his Histoire Naturelle des Medicamens (p. 117.), informs us, that in Spain and at Naples the lacerta agilis (Lin.), when deprived of the skin, head, tail and entrails, is administered in venereal cases, and quotes Florez as his authority (1782.), who says of its specific virtues, "espicifico descubierto en el regno de quatiluana," adding, that it produces salivation and sweating. The lacerta scincus (Lin.), the

officinal scink of Shaw, iii. pl. lxxix. is eaten by the Egyptians as a restorative and aphrodisiac; the flesh used formerly to be an ingredient in old compound preparations, which went under the name of *theriaca andromachi.*

CCXLIII.

PANICHEKAI பனிசகாய also *Toombikāi* (Tam.) *Fruita da grude* (Port.) *Tumika* (Tel.) *Gaub* (Hind.) *Sindica* (Sans.) *Fruit of the Glue-bearing Embryopteris.*

Diosperos Glutinosa (Kœnig).
Embryopteris Glutinifera (Lin.).

Cl. and Ord. Dioecia Polyandria. *Indischer Schleimapfel* (Nom. Triv. Willd.).

Panichekāi is the Tamool name given to the fruit of a tree common in the Indian woods, and which is the *embryopteris glutinifera* (Lin.). See Cor. i. p. 49. t. 70. It was till lately taken, in India, for a species of garcinia; though it is well known that Gærtner, in his work "*De Fructibus et Seminibus Plantarum,*" had sufficiently well described it, so far back as 1788, under the name of *embryopteris peregrina* (see his work, i. p. 145.). It is the *lym. appel* of the Dutch, and the *mangostan utan* of the Malays; its Sanscrit name is *sindica* also *tembiri;* the Persians call it پانیچی *panichie.*

The fruit, in external appearance, is not unlike a russet apple, pulpy, of a rusty yellow colour, and covered with a rust-coloured farina; on being punctured, it gives out a juice of peculiar *astringency,*

and which the Hindoo doctors sometimes employ as an application to fresh wounds; it is, besides, occasionally eaten, but is not palatable, and is often used by the carpenters of the Malabar coast as an excellent glue. The whole fruit, pounded, is employed in the Bengal provinces for paying the bottoms of boats, and called there *gab*.

The *embryopteris glutinifera* is the only species of the genus yet discovered, of which genus the essential character is thus given by Willdenow:

"MASCULI. *Cal.* 4-dentatus; *cor.* 4-fida; *stam.* 20; *antheræ* bifidæ.

"FEMINEI. *Cal.* 4-dentatus; *cor.* 4-fida; *stigma* cruciatum, sessile; *pomum*, 8-spermum."

Of the plant in question (the *panitsjika marum*, Hort. Mal.) we learn from Willdenow: "*Arbor* mediocris, ramis teretibus pallidæ fuscis; *folia* alterna semipedalia oblongo, lanceolata acuta integerrima glabra venosa rigidiuscula; *flores* ochroleuci, *masculi* in pedunculis multifloris axillaribus; *feminei* in pedunculis unifloris solitariis." See Spec. Plant. vol. iv. p. 836.

Rheede, speaking of the tree, says, "Arboris cortex in pulverem redactus ac cum oryzæ infuso, et expresso e matura nuce Indica lacteo succo mixtus, atque febricatantibus exhibitus æstum potenter extinguit; ex seminibus oleum exprimitur." Vide Hort. Mal. part iii. p. 46. t. 41.

It is to be found in the woods of Ceylon, and is there called by the natives *mahatimbiri*. Roxburgh tells us, in his Cor. Plants (i. No. 70.), that it is a middle sized tree, growing in the Circar mountains; it has a straight erect *trunk*; *leaves* alternate, oblong, pointed, short petioled; wood not much worth. See article *Gab*, in Part III. of this work.

CCXLIV.

PANNANGKULLOO பனங்கள்ளு (Tam). *Tārie* تاڑي (Duk.) *Tāti kulloo* (Tel.) *Tāla* ताल (Sans.) *Palmyra Toddy.*

BORASSUS FLABELLIFORMIS.

Cl. and Ord. Dicœcia Hexandria. Nat. Ord. Palmæ. *Facherformige Weinpalme* (Nom. Triv. Willd.).

The wine, or rather the sweet and pleasant tasted fresh liquor called Palmyra toddy, which is drawn from this tree, though far inferior to that got from the cocoa-nut tree, is of a very cooling and gently aperient quality; and is ordered to be drank by the Tamool physicians in such cases as require drinks of that nature.

The tree, which is called *tāl* both in Bengalie and Hindoostanie, is one of the most useful in India, and will be further noticed in other parts of this work.

Of the essential character of the genus, Willdenow says,

"MASCULI. *Cal.* triphyllus; *cor.* hypocrateriformis limbo tripartito.

"FEMINEI. *Cal.* 8; s. 9-phyllus, imbricatus; *cor.* 0; *stam.* 8-monadelphia; *styl.* 0; *drupa* tripyrena" (Spec. Plant. vol. iv. p. 800.).

There is but one species, which is, of course, our article. The male plant is the *ampana* of Rheede (Mal. i. p. 13. t. 10. mas.); the female plant he mentions under the name of carimpana, at page 11.

and table 9. Rumphius speaks of it under the appellation of *Iontarus domestica* (Amb. i. p. 45. t. 10.). It is the *mŭrŭme* of the *Cochin-Chinese*, and the *talgaha* of the Cyngalese.

The borassus flabelliformis is very common in India, growing generally in sandy situations near the sea; it rises to the height of about thirty feet, or more, with a trunk about a foot and a half thick, covered with a very dark-coloured bark, and containing a soft pith in the middle. The fronds are palmate, plaited, and cowled; stipes serrate, near six feet in length, flat, and somewhat hollow and rough, with spines along the edges; the leaf part is large and wide, and folded like a fan or umbrella, for which purpose it is sometimes used; the fruit varies in size, from a small orange to that of a child's head. From the sap, or sweet liquor, a coarse sugar is made; the liquor, though it may be drank when fresh drawn from the tree without danger, on being kept some hours after the sun is up, undergoes a fermentation, and intoxicates. According to Sprengel, in his "*Historia rei Herbariæ*" (vol. i. p. 272.), دوم is the Arabic word given by Avicenna (206.) for the borassus flabelliformis, supposing it, certainly erroneously, to be that tree which yields *bdellium*; see that article, in Vol. I. of this work. Crawfurd*, in his Account of the Eastern Archipelago, informs us, that at Celebes, and other parts of those countries, the toddy of the borassus flab. is called *tar* and *tala*, names similar, or nearly so, to the Dukhanie and Sanscrit ones of India; in Timor it is termed *suwalen*, also *koli*. Roxburgh, in his Coromandel Plants, vol. i. p. 50., tells us, that the male plant is

* See his History of the Indian Archipelago, vol. i. p. 443.

called in Tellingoo *poota tāti;* the female, *penty.* After the caryota urens, it is one of the largest palms on the Coromandel coast.

CCXLV.

PARATIE VAYR பரத்தைவேர் also *Vun paratie vayr* (Tam.) *Kapās ké jurr* كپاس كي جر (Duk.) *Ussul ul koten* اصل القطن (Arab.) *Puttie vayroo* (Tel.) *Watta* (Japan.) *Cay-boung* (Cochin-Chin.) Βομ βακι (Mod. Greek). *Karpāsī* कर्पासी or *Kārpāsī* कार्पासी (Sans.) *Root of the Cotton Bush.*

GOSSYPIUM HERBACEUM (Lin.).

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Krautartige Baumwolle* (Nom. Triv. Willd.).

This root, which is woody, with numerous fibres, tapering and annual, has but little taste or smell, and, I much suspect, possesses little real medicinal virtue. The Tamool doctors are in the habit of prescribing it, however, in the form of decoction, in cases of strangury and gravel, from a notion that it is demulcent; the dose is about half a tea-cupful or more, twice daily.

Of the essential character of the genus, Willdenow says, "*Cal.* duplex, exterior 3-fidus; *caps.* 4-locularis; *sem.* lana obvulata."

The common cotton bush of India, which this is, rises to the height of about three or four feet, with a round, upright, pubescent stem, at the bottom brown,

with straight chinks, and spotted with black at the top; the *branches* are axillary; *leaves* five-lobed, without* gland underneath, though, Willdenow says, uniglandulosis †; the *corolla* is monopetalous, with a very short tube and a five-parted spreading border; the segments blunt, crenate at the side, pale yellow, with five red spots at bottom, and deciduous; *capsule* bluntly three-cornered, three-valved, three-celled; seeds, which are a fattening food for cattle, are ovate, about three in each cell, convex on one side, more flat on the other, and immersed in *fine cotton.* This species is common not only in India, but in the Levant, in several Islands of the Archipelago, Sicily, Malta, &c. There is a beautiful variety of it on the Coromandel coast, which has a dark red, sweet-smelling flower.

The uses of the cotton bush are well known, and will be noticed in another part of this work, where the superior quality of the *Bourbon cotton* shall also be adverted to; this is the produce of a bush which sometimes rises (at least in the West Indies ‡, whither it was taken in 1795) to the height of eighteen feet or more.

One of the two species of the cotton-bush, cultivated in Jamaica, is considered as medicinal, viz. the *gossypium barbadense;* an emulsion of the seed of it is given in dysentery, and is also supposed to be pectoral. The seeds yield, by expression, an oil which is much used, and is considered to have, in a peculiar manner, the virtues, when externally applied, of clearing the skin of spots and freckles. A tea made of the young leaves is recommended in

* Vide Murray Prodromus, 170.
† Vide Willdenow, Spec. Plant. vol. iii. p. 803.
‡ See Lunan's Hortus Jamaicensis, vol. i. p. 241.

lax habits *, and for preparing a vapour-bath for the anus, in cases of tenesmus.

Of the second species, cultivated in Jamaica, the *g. hirsutum*, I shall simply here say, that it is from a variety of it that the finest and most silky kind of cotton is obtained in America, and which has procured for it amongst the French, the name of "*cotonier de soi.*" This is the more remarkable, as the cotton obtained from the other species is, according to Browne, the least esteemed of any in Jamaica.

The cotton from the *shem paratie* (Tam.), *gossypium arboreum*, will also be noticed in another part of this work. Nine species of gossypium are growing in the botanical garden of Calcutta. By Moon's Catalogue, it would appear, that but two are natives of Ceylon, the *g. Indicum* and *g. religiosum*.

CCXLVI.

PATRASHI (Tam.) *Keso* (Japan.) *Gul abbas* گلاباس (Hind. and Duk.) *Rambal pokul ampat* (Malay.) *Krishna-keli* (Beng.) *Hoan-phan* (Cochin-Chin.) *Marvel of Peru.*

MIRABILIS JALAPA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Nyctagines (Juss.) *Gemeine Jalape* (Nom. Triv. Willd.).

The excellent Dr. Fleming, in his Catalogue of Indian Medicinal Plants, says (p. 28.), "This is not an indigenous plant of *Hindoostan*, but all the varieties of it are now cultivated as an ornament to

* See work last quoted, p. 242.

the gardens in Bengal." Now we know that Willdenow* observes, in speaking of it, "Habitat in India†," and Miller informs us, that it is a native of both the East and West Indies, as well as of China, Cochin-China, Africa, and Peru. It was once supposed that the root of this plant was the jalap of the shops, but that is now ascertained to be the root of a *convolvulus*. The tuberous root of the plant in question, which is the *sindrikka* of the Cyngalese, often grows to a large size, and has a faint, and rather sickly smell and taste. The native doctors consider it as gently aperient; and it was imagined at one time, by the European medical men of India, that it might be useful in practice; it would appear, however, by the accounts of both Dr. Hunter and Dr. Shoolbred‡, who prescribed it, and my own experience leads me to the same result, that its purgative virtues are not sufficient to entitle it to any consideration; and we moreover know, that Loureiro said of it, in his Flora Cochin-Chin. (vol. i. p. 101.) "*Hæc radix non est apta ad medicinam.*"

Of the essential character of the genus Willdenow says, "*Cor.* infundibuli, supera; *cal.* inferus; *nectarium* globosum, germen includens."

The species *mirabilis* is a beautiful perennial plant, distinguished by its smooth leaves, and the variety of colour in the flowers, red, white, yellow, &c.; these are heaped, terminating, erect, sitting close together without any leaflets between them, and not longer than the leaf. The reader may find a more particu-

* See Spec. Plant. vol. i. p. 999.

† By the Hortus Bengalensis, in which five varieties of the plant are noticed, it would appear that it was not introduced into the botanical garden of Calcutta much before 1794.

‡ See Fleming's Catalogue of Indian Medicinal Plants, p. 29.

lar account of it in Parkinson's *Paradisius*, published in 1629. We are told by Thunberg that with the seeds of this plant the Japonese prepare a sort of white paint for their complexions.

CCXLVII.

PASSELIE KEERAY பசளிகீரை (Tam.) *Chowly* چولي (Duk.) *Bucklutulmobarik* بقلةالمبارک (Arab.) *Batsalikoora* (Tel.) also *Pedda-poil-pail-kura* (Tel.) *Oopadȳkee* (Sans.) *Creeping Annual Purslane.*

PORTULACA QUADRIFIDA (Lin.).

Cl. and Ord. Dodècandria Monogynia. Nat. Ord. Succulentæ. *Viertheiliger Portulac* (Nom. Triv. Willd.).

The bruised fresh leaves of this acid and pleasant tasted purslane are prescribed, by the Tamool practitioners, as an external application in *akki* (Tam.), erysipelas; an infusion of them is also ordered as a diuretic in *dysuria*, to the extent of half a tea-cupful twice daily.

Of the essential character of the genus Willdenow says, "*Cor.* 5-petala; *cal.* 2-fidus; *caps* 1-locularis, circumscissa."

The species in question, which is the *heen-gendakola* of the Cyngalese, is a creeping, annual plant, a native of the Indian woods, distinguished by *bractes* in fours, *flowers* quadrifid, and a *stem* with hairy joints; it has a fibrous *root; leaves* opposite, spreading, distant, ovate, lanceolate, fleshy, even, sessile,

quite entire, concave underneath, with transparent *micæ* scattered over them; the *flowers* are sessile, yellow, and surrounded with white hairs like the joints; and the *seeds* are rounded and muricate.* The plant is the *portulaca linifolia* of Forskahl (Egypt. 92.). Five species of portulaca are in the botanical garden of Calcutta.

Of the four that are indigenous in Jamaica, two appear to be there employed in medicine; the *portulaca oleracea*, or *pot-herb*, and the *p. pilosa*. The first, Mr. Lunan† tells us, "is a cooling and moistening herb, and of use in burning fevers." Barham says (p. 154.), "that bruised, and applied to the temples, it allays excessive heat, and such pains as occasion want of rest and sleep;" adding, "that the juice made up into pills, with gum tragacanth, is of use in spitting of blood." The plant is common also in India, and is eaten by the Hindoos. In Tamool it is called *coril keeray;* the Canarese name is *doda gorai;* its Sanscrit and Hindoostanie appellation لونیا *loonia*. The other species employed in medicine in the West Indies (the *p. pilosa*), is, we are told by Browne, "very bitter in all its parts, and is frequently used as a stomachic and provocative of the menses, as well as a diuretic." Three species of portulaca are natives of Ceylon, but one was found by Loureiro in Cochin-China, the p. oleracea (*rau sam*), where the seed is considered as emollient and diuretic.

* See Willdenow Spec. Plant. vol. ii. pp. 860, 861.

† See Lunan's Hortus Jamaicensis, vol. ii. p. 109.

CCXLVIII.

PATTI LALLAR (Jav.)

BRUCEA (Nov. Spec.).

Patti lallar is the Javanese name of a new species of brucea, discovered on Java by Dr. Horsfield; it resembles, he says, in its nature the other species, which he discovered in the same island, and, like all of that genus, is distinguished by its bitter and stomachic qualities.

CCXLIX.

PAVALA POOLA (Tam.) also *Pāgárá pula* (Tam.) *Gas-kayila* (Cyng.) *Buckthorn-like Phyllanthus.*

PHYLLANTHUS RHAMNOIDES (Retz.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Tricoccæ. *Wegdornatiger Phyllanthus* (Nom. Triv. Willd.).

The leaves of this beautiful plant, the Tamool doctors suppose to have virtues in discussing tumours, especially what they call *púkka poolavay*, which is our carbuncle * (anthrax); they are applied warm, moistened with a little castor-oil, and frequently in conjunction with *yettie kólíndoo* (tender shoots of the strychnos nux vomica), and the leaves of the *sittamoonaka* † (ricinus communis).

* A disease very common amongst the wealthy Hindoos, who eat much ghee (clarified butter) and get fat.

† See a medical sastrum, entitled Aghastier Permool.

Of the essential character of the genus, we have already spoken under article *Néllie poo* in this chapter; the species in question is distinguished by its *numerous* leaves, which are alternate, and which are generally about an inch and a half long, and a little more than an inch broad. Retz, in his "*Observationes Batanicæ*," has given the best description of it (p. 30.); he says, "Phyllanthus caule suffruticosa, foliis pinnatis, foliolis alternis ovatis floriferis, pedunculis inferioribus geminis masculi, superioribus solitariis femineis;" the fruit is a black berry. It is a native of Java and Ceylon as well as India. Thirty-six species of this genus have been scientifically described, sixteen of which are natives of India, and but one of Jamaica, the *p. nutans*. Twenty-one species are growing in the botanical garden of Calcutta; ten species are natives of Ceylon. Moon's Catalogue of Ceylon Plants, p. 65.

CCL.

PAVUTTAY VAYR பாவுட்டைவேர் (Tam.) *Pawatta* (Cyng.) *Pāpútta vayroo* (Tel.) *Cancra* (Hind.) *Root of the Indian Pavetta.*

PAVETTA INDICA (Lin.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Stellatæ. *Scheelkorn* (Nom. Triv. Willd.).

This is a bitter but not unpleasant tasted root, possessing at the same time aperient qualities, and is one of those medicines commonly prescribed by the native doctors in visceral obstructions; given in powder to children, the dose about a drachm or more.

Of the genus, Willdenow says, "*Cor.* 1-petala infundibilif. supera; *stigma* curvum; *bacca* 2-sperma.

The species in question, which is the *pavatha* of the Cyngalese, is a middle-sized shrub common on road sides, and uncultivated lands; Roxburgh, under the name of *ixora pavetta*, has minutely described it in his *Flora Indica* (Vol. i. p. 395,396.), and tells us, that its "*branches* are cross-armed and ascending; *leaves* opposite petioled and oblong; *stipules* within the leaves, with a long awled process on each side; *flowers white*, and somewhat fragrant; *stigma* clubbed; *berry* globular, size of a pea, one or two-celled." The fruit, which is of a green colour, is eaten by the Natives, but is oftener made into pickle. The shrub is in Sanscrit called *páppána*, also *carnicara;* it is the *malleamothe* of Rheede (Hort. Mal. v. 19. 20. t. 10.). In Bengalese it is *kookoora-choora;* the Tellingoos sometimes term it *nooni-papoota*, in addition to the name already mentioned. Rumphius speaks of it under the appellation of flammula sylvarum (Amb. iv. p. 107. t. 47.). Loureiro notices two species of pavetta, one a native of China (*pav. arenosa*), the other (*pav. parasitica*) as cultivated in the gardens of Cochin-China, vol. i. p. 74.: our article he professes to have no knowledge of.

CCLI.

PAUMBOO பாம்பு (Tam.) *Samp* سامپ (Duk.) *Samp* (Hind.) *Uf-iey* افعي (Arab.) *Mar* مار (Pers.) *Sarppa* सर्प (Sans.) *A Snake.*

COLUBER.

The flesh as well as skin of certain snakes are supposed to possess medicinal qualities in some Eastern countries. In the *Ulfaz Udwiyeh* we are told (article 230.), that its *quality* (the flesh) is hot and dry, and its *property* attenuant. The Hindoos have a notion that the dried flesh of a hill-snake, which is termed in Tamool *Malay paumboo* *, has virtues in that dreadful malady which is called in Tamool *koostum* (Leprosy of the Arabians), as we learn from the Medical Sastrum, entitled, *Aghastier Pernool;* and it also appears by the Medical Sastrum, called *Tunmundrie Vaghadum*, that the cast off coat of a snake, reduced to powder, and blended with a fixed oil, obtained from the seeds of the dalbergia arborea, has virtues as an external application in what the Tamools term *kācāvullie* (Epilepsy). But we shall say more of snakes under the head of poisons, in another part of this work.

Serpent's slough, *exuvia serpentis*, *spolium serpentis*, was formerly used as a *ligature* in intermittent fevers, a practice lately revived; but, as Mr. Gray says, without the mummery of the serpent's slough, by Mr. G. Kellie. See Gray's Supplement to the Pharmacopœia, p. 160.

CCLII.

PAYMOOSTEY (Tam.) *Malabar Convolvulus.*
CONVOLVULUS MALABARICUS (Lin.).

* It is a beautiful and inoffensive snake, about three feet long, with one hundred and ninety-two abdominal plates, and eighty-four subcaudal scales; the colour of the ground is a blueish green, with three or five brown linear stripes, of which the middle one is the broadest. These distinctions agreeing well, indeed exactly, with the coluber lineatus (Shaw).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Campanaceæ. *Malabarische Winde* (Nom. Triv. Willd.).

This is a plant with a twining, round, villose, perennial stem, and leaves cordate, acuminate, and quite entire; the corolla which has a pleasant aromatic odour, is bell-shaped, with a long tube, white, with a dusky purple base.

The plant is the *kattu-kelungu* of Rheede, Mal. ii. p. 205. t. 51. It is a native of the Malabar coast, and also of Cochin-China, and may be found described by Loureiro, in his *Flora Cochin-Chinensis*.

Of the genus, Willdenow observes, "*Cor.* campanulata, plicata; *stigm.* 2; *caps.* 2-locularis loculis dispermis." Spec. Plant. vol. i. p. 844.

I have given this article a place here, not from any specific information I can offer with regard to its virtues, but merely because it is considered by the farriers in India, as a valuable horse medicine; and in the hope that it may become an object of more minute investigation.

CCLIII.

PEEA-RACK-ELIOU (Siam.)

A root found in Siam, by Dr. Finlayson, considered as diuretic by the native inhabitants.

CCLIV.

PEERAHI VAYR (Tam.) *Pukkie vayroo* (Tel.) *Seeura* سيورا (Hind.) *Nuckchilnie ke jurr* نكچلني كي جر (Duk.) *Sheora* (Beng.) *Sprukka* (Sans.) *Gæta-nitul* (Cyng.) *Root of the Rough-leaved Trophis.*

TROPHIS ASPERA (Kœnig.).

Cl. and Ord. Diœcia Tetrandria. Nat. Ord. Calyciflore. *Scarf-blattrige Trophis* (Nom. Triv. Willd.).

All I can say of this root is, that it was sent to me together with some other articles from the Malabar coast a very short time before my leaving India, and mentioned in general terms as a valuable medicine, but for what specific purpose was not said. The milky juice of the fresh plant, the natives apply to sand-cracks in the feet and excoriations in the skin. A very minute description of the trophis aspera, may be found in the fourth volume of the Asiatic Researches, by Sir William Jones; it grows, by his account, to a tree of considerable magnitude; there are male and female plants; the female *flowers* are axillary, from one to four or five in an axil; the *leaves* vary, some being obovate, some oblong, some oval, pointed, irregularly notched, alternate (some opposite), crowded, crisp, very rough veined, and paler beneath, smoother, and dark above; *berry* very deep yellow; he adds, that the Pandits of India having only observed the male plant, suppose that it never bears fruit; he further observes, that the Hindoos, from a notion of its astringent and antiseptic quality, use

little pieces of the wood, split at one end into a kind of brush, for cleaning their teeth.

Of the genus, Willdenow says,

"Masculi. *Cal.* 0; *cor.* 4-petala.

"Feminei. *Cal.* 0; *cor.* 0; *stylus* 2-partitus; *bacca* 1-sperma. See Spec. Plant. vol. iv. p. 733.

In Jamaica there is but one species, *the trophis Americana*, or *ramoon tree*, the leaves and tops of which, Browne informs us, in his "*Civil and Natural History of Jamaica**, are fodder for all sorts of horses and cattle; the berries, which are about the size of large grapes, have a very pleasant flavour. But four species of this genus have hitherto been brought into the system, two of which are natives of India.

CCLV.

PEMAYRUTIE ⵗⵍⵍⵗⵔⵜⵍⵍⵔ (Tam.), also *Nettay Pēmayrutie* (Tam.) *Mogá beerākoo* (Tel.) *Bootankooshum* (Sans.) *Malabar Cat Mint.*

Nepeta Malabarica (Lin.).

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Verticillatæ. *Malabarische Katzenmunze* (Nom. Triv. Willd.).

The leaves of this plant, which are generally about five inches long, one inch and a half broad, and of an ovate-lanceolate shape, have a bitter and somewhat aromatic taste, and are prescribed in infusion in stomachic complaints, and in the later stages of dysenteric affections, also in intermittent fevers, to the quantity of an ounce and a half twice daily: the

* Page 357. t. 37. fig. 1.

juice, squeezed from leaves which have been slightly warmed, is prescribed for children in their febrile attacks from teething. Rumphius*, in speaking of the juice of this tree, which he tells us the Malays call *daun-bati-bati*, has these words, "Idem quoque succus cum binis guttis olei sesamini, propinatus prodest mirificè asthmaticis, vel tussi mala laborantibus, quem in finem syrupus quoque præparatur ex foliorum succo cum saccharo cocto." It is remarked by the Tamool practitioners that the leaves of the *vŭttéi-pemayruttie* (*ballota disticha*) have nearly similar virtues: it is a plant of the same class and order.

Of the genus nepeta, Willdenow says, "*Corollæ* labium inferius lacinula intermedia crenata, faux margine reflexo; *stamina* approximata." Spec. Plant. vol. iii. p. 49.

The species in question has been minutely described by *Kœnig*, who informs us, that it has *stems* erect, obtuse-angled, tomentose; *leaves* ovate-lanceolate, tomentose, serrate, quite entire; *calyx* villose, five-toothed; and a *corolla* of a pale-violet colour. It is a native of Malabar, where it has got the name of *carim. tumba*. See Rheede, Mal. x. p. 185. t. 93. Loureiro† notices but one species, the *hirsuta*. I find in Moon's Catalogue of Ceylon Plants but two, the nep. *Indica* and nep. *Madagascariensis*. The species cataria grows in Jamaica, and is there considered as a medicinal plant. The bitter infusion of it is reckoned a good cephalic and emmenagogue. See Hortus Jamaicensis, vol. i. p. 168.

* Vide Rumph. Amb. tom. v. lib. viii. cap. lxxv.
† See Flor. Cochin-Chin. vol. ii. p. 366

CCLVI.

PEPOODEL பேய்ப்பூடல் (Tam.) *Chaynd pollā* (Tel.) *Patola* पटोल (Sans.) *Laciniated, or Torn Trichosanthes,* or *Hair-Flower.*

TRICHOSANTHES LACINIOSA (Klein).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitacaæ. *Handformige Haarblume* (Nom. Triv. Willd.).

The tender shoots and dried capsules of this low-growing gourd are very bitter and aperient, and are reckoned amongst the stomachic laxative medicines of the Tamools; they are used in infusion to the extent of two ounces, twice daily.

Of the genus, Willdenow says,

"MASCULI. *Cal.* 5-dentatus; *cor.* 5-partita, ciliata; *filam.* 3.

"FEMINEI. *Cal.* 5-dentatus; *cor.* 5-partita, ciliata; *styl.* 3-fidus; *pepo* oblongus."

The plant was first scientifically described by Dr. Klein of Tranquebar, who transmitted his account of it to Willdenow. He says of it, "Trich. pomis ovatis acutis, foliis cordatis quinque-vel-septemblo-palmatis dentatis glabris."

"*Caulis* filiformis scandens angulatus glaber; *folia* bi-vel tripollicaria profunde cordata palmata quinque-vel septemloba remote dentata utrinque glabra; *flores masculi* in pendiculis corymbosis sexfloris axillaribus, petalis ovatis dentatis: *feminei* in pedunculis solitariis axillaribus; petalis simbriato-ciliatis." See Spec. Plant. vol. iv. p. 601.

Of this genus, eleven species are noticed by Willdenow, without including the *trichosanthes dioca* of Roxburgh, which has got the name of پڑور in upper Hindoostan. The T. Cucumerina is the *pacta valam* of Rheede (Mal. viii. p. 39.), and the *kooalunin* of the Japanese: it is in high repute on the Malabar coast for the stomachic virtues of the seeds. The *t. amara* is the only species found in Jamaica, and has got the character of being poisonous. Mr. Robinson*, in his interesting manuscripts regarding the Natural History of Jamaica, observes that it is used for destroying rats. It would appear by the *Hortus Bengalensis* (p. 70.), that seven species are growing in the Company's botanical garden at Calcutta, all natives of India. Four species grow in Ceylon.

CCLVII.

PERAMOOTIE VAYR பேராமூடிவேர் (Tam.) *Mootopolāgum vayroo* (Tel.) *Balā* बला (Sans.) *Root of the Sweet-smelling Pavonia.*

PAVONIA ODORATA (Willd.).

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Wohlriechende Pavonie* (Nom. Triv. Willd.).

An infusion of this sweet, pleasant-smelling root is used as a diet-drink by the Hindoos in cases of fever, half a tea-cupful occasionally: the root, as it appears in the medicine-bazars, is light-coloured, and about the thickness of a quill.

* See Address to Subscribers by Mr. Lunan, in the first volume of his *Hortus Jamaicensis*.

Of the genus, Willdenow says, "*Cal.* duplex: exterior polyphyllus; *stigmata* 10; *capsulæ* 5-bivalves monospermæ." Of the species, he adds, "P. *foliis* ovatis subcordatis tricuspidatis subdentatis, ramisque piloso-viscosis, pedunculis, calycibus polyphyllis; *corolla* inter parvas videtur rubra, magnitudine Hibisci phœnicei, campannulata; *stylus* decemfidus; *capsulæ* quinque acuminatæ cavinatæ venosæ." Vide Spec. Plant. vol. iii. p. 837.

But one species of pavonia grows in Ceylon, the pav. Zeylonica, which the natives call *gas-bæwila*. The species urens is a native of the Mauritius.

CCLVIII.

PERUMARUNDOO பெருமருந்து (Tam.) *Isarmel* (Hind.) *Cay khoai ca* (Coch. Chin.) *Isrievayl* اسريويل (Duk.) *Wallas* (Jav.) *Sacasander* (Cyng.) *Doolagovila Eesárávayroo* (Tel.) *Satsanda* (Cyng.) *Ishwari* ईश्वरी also *Hari* हरि (Sans.) *Indian Birthwood.*

Aristolochia Indica (Lin.).

Cl. and Ord. Gynandria Hexandria. Nat. Ord. Sarmentaceæ. *Ostindische Osterluzey* (Nom. Triv. Willd.).

The root, and indeed the leaves, stalks, and bark of this shrub are bitter; the taste of the first is accompanied with a slight degree of aromatic warmth, and is on this account reckoned by the Tamool doctors (who sometimes call it *talashroolivayr*) to possess virtues which render it a valuable medicine in those bowel affections which children are subject to, in

consequence of indigestion and teething. *Loureiro* * mentions it as attenuant and deobstruent: it is, besides, amongst the many remedies which are employed on the Malabar coast in cases of snake-bites, the powder being both taken internally and applied to the part that is bitten. Dr. Fleming, in his "Catalogue of Indian Plants" (p. 8.), says that the *isarmel*, or rather its root, is considered by the Hindoos of Upper India to possess emmenagogue and antarthritic virtues. The shrub is the *catelæ-vegon* of Rheede (Mal. viii. p. 48. t. 25.), and the *radix puloronica* of Rumphius, who asserts that in Banda the bitter root of it is employed in decoction in diseases of the intestines, and also in intermittent fevers.† The dose in India of the decoction of the root is an ounce and a half twice daily.

The *aristolochia longa* (the *koma-no-susu* of the Japonese), as well as the *aristolochia rotunda*‡ are both included in the Materia Medica of the Arabians; the first is considered as discutient and healing, and is called by the Arabians زراوند طويل, and by the Persians زراوند دراز: the second is supposed to be attenuant and deobstruent, and is termed in Arabic زراوند مدحرج, and in Persian زراوند كرد. Virey, in his "*Histoire Naturelle des Medicamens*" (p. 160.), says of them, "elles passent pour puissantes incisives."

Of the genus, Willdenow observes, "*Cor.* 1-petala, ligulata, basi vetricosa; *caps.* 6-locularis, polysperma infera." Spec. Plant. vol. iv. p. 1609.

* Adding, "Prodest in colica, cibi inappetentia, febribus intermittentibus, obstructionibus, hydrope." Flor. Cochin-Chin. vol. ii. p. 528.

† See Horsfield's Account of the Medicinal Plants of Java.

‡ They are natives of Italy and Spain.

The species in question (Indica) is the *cay-khoaica* (Coch. Chin.), and the *ispurmool* of Upper Hindoostan: it has *stems* shrubby, round, slender, branched, long, and interwoven; *leaves* cordate, rather acute; *corolla* of a dusky-purple colour; *anthers* six, on a very short thick style, and a capsule roundish and hexagonal.

Two species are natives of Jamaica, and are both considered there as medicinal plants—the *a. odoratissima* and *a. trilolata*. *Barham* (p. 44.) speaks most highly of the first as an admirable bitter, alexipharmic (counter-poison) and stomachic, of superior virtue even to the Spanish *contrayerva**, in dropsical cases; and Browne would seem to ascribe nearly the same virtues to the other species (a. trilolata). The *aristolachia serpentaria*, or Virginian snake-root, is not a native of India: its virtues are sufficiently well-known, and are, like those of the contrayerva-root, perhaps held in more estimation on the continent† than in England. See Alibert's "New Elements of Pharmacy" (vol. i. p. 116. French edition). *Niehbur*, in his Travels in Arabia (vol. ii. p. 348.), tells us, that the Arabians consider the root of the *a. sempervirens* as a powerful remedy in cases of snake-bites, taken in decoction for forty days together, the absurdity of which is evident, when we reflect how rapidly death usually succeeds to the bite, sometimes

* By this he means, I presume, the root of the *dorstenia contrayerva*, so long known as a valuable stimulant, sudorific, and tonic, and which is a native of Mexico and Peru; its virtues appear to be more highly prized by the French practitioners than by us. See Nouveaux Elémens de Thérapeutique, par Alibert, tom. i. p. 114.

† The reader may find its virtues highly praised in this respect, in an old book, published in Paris in 1635, by J. Cornutus, entitled "Canadensium Plantarum, aliorumque nondum editarium Historia."

in a few minutes. The same author mentions another remedy for such maladies, which some of the expert native practitioners have often recourse to, and, I think, with greater probability of success; that is, immediately sucking the wound, and which may be done with impunity, if the mouth or tongue is not at the time excoriated: the plant is a native of Crete, as well as Arabia. Of the thirty-nine species of aristolochia hitherto noticed, but two appear to be natives of India, our present article and the *a. bracteata*, mentioned under the head of *addutanapālay* (its Tamool name) in this part of the work. Five species are in the botanical garden of Calcutta. Our article is the only one growing in Ceylon.

Very various are the medicines which have been at different times resorted to for the bites of poisonous snakes, but few or almost none, I am sorry to say, with any certain advantage. In America the root of the *polygala Senega* or *Seneka root** has long been vaunted for its virtues in cases of rattle-snake-bite, and was first brought to the notice of European practitioners by Dr. Tennant; but Dr. Barton† speaks by no means decidedly of its efficacy in that dreadful affliction, and seems to think that it is more useful in *croup* than in any other complaint. No article of the whole Materia Medica has had assigned to it so many good qualities as the *p. senega;* it has been said to be at once stimulant, diuretic, sialogogue, expecto-

* Dr. Horsfield, in his Account of the Medicinal Plants of Java, tells us, that the root of the *chloranthus inconspicuus* (the only species yet discovered) has much the odour of seneka root. The plant is the *kras tulang* of Batavia; the leaves are considered there as corroborant, and are given, in decoction, in gleets and intermittent fever.

† See Barton's Vegetable Materia Medica of the United States, vol. ii. p. 117.

rant, emetic, and sudorific; Dr. Cullen has treated of it both under the head of cathartics and diuretics; Dr. Brandreth of Liverpool recommends it in lethargy; Dr. Chapman has given it a place amongst the emmenagogues; and Woodville himself extols it in peripneumonic affections and in rheumatism. The ar. bracteata is common on the Coromandel coast, and called in *Tellingoo gardi-garapa:* the ar. *acuminata* grows at Chittagong. See Hort. Bengalensis.

CCLIX.

PERUMARUTTOO PUTTAY பெருமரத்துப்பட்டை (Tam.) *Peddāmānieputta* (Tel.) *Aralu* अरलु (Sans.) *Bark of the Ailanthus excelsa.*

AILANTHUS EXCELSA (Roxb.).

Cl. and Ord. Polygamia Monœcia. *Hoher Goetterbaum* (Nom. Triv. Willd.).

This bark has a pleasant and somewhat aromatic taste, and is prescribed by the native practitioners in infusion, in dyspeptic complaints, to the extent of three ounces twice daily.

Of the genus, this is said by Willdenow:*

"HERMAPH. *Cal.* 5-partit; *cor.* 5-petala; *stam.* 2, 3; *germ.* 3. 5; *styli* laterales; *samaræ* monospermæ.

"MASCULI. *Cal.* 5-partit; *cor.* 5-petala; *stam.* 10.

"FEMINEI. *Cal.* 5-partit; *cor.* 5-petala; *germ.* 3. 5; *styli* laterales; *samaræ* monospermæ."

* See Spec. Plant. (vol. iv. p. 974.)

The species in question is a very large tree, and has been particularly described by Roxburgh, in his Coromandel Plants; it would not appear to differ very much from the other species, for there are but two, the *ailanthus glandulosa*, which is also a large tree, a native of China. Of the ailanthus excelsa *, Roxburgh says, that it rises with a straight trunk, like a fig-tree; the leaves, which are three feet long, are abruptly pinnated; leaflets short-petiolated, from ten to fourteen pairs; flowers exceedingly numerous, small, slightly tinged with yellow; capsules from one to four; one seed flattened. The tree grows in Ceylon, and is found in many parts of the Coramandel circars, but is oftenest met with among the open valleys of the mountains; the wood, which is light and white, is commonly made into catamarans.

CCLX.

PERUNDEI CODIE பரணதகொடி (Tam.) *Nillur* نلر (Duk.) *Harjora*, also *Har* (Beng.) *Har* هار (Pers.) *Nullerootingeh* (Tel.) *Wæl-heerœssa* (Cyng.) *Vajra valli* वज्रवल्ली (Sans.) *Four-angled Cissus.*

Cissus Quadrangularis (Lin.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Hederaceæ. *Viereckige Klimme* (Nom. Triv. Willd.).

The leaves and quadrangular shaped stalks of this rather nauseous smelling climbing plant, are, when young and tender, sometimes eaten by the natives; and when dried and powdered, are prescribed by the

* See Coromandel Plants, vol. i. pp. 23, 24.

Tamool practitioners in certain bowel affections, connected with indigestion; they are also considered as powerful alteratives; of the powder about two scruples may be given twice daily, in a little rice-water.

Of the genus, Willdenow says, "*bacca* 1-sperma, cinta calyce corollaque quadripartita." (Spec. Plant. vol. i. p. 655.)

The species in question is the *funis quadrangularis* of Rumphius (Amb. v. p. 83. t. 44. f. 2.), and has been well described by Roxburgh, in his *Flora Indica* (p. 426.), who tells us, that it is common over every part of India. The *roots* are fibrous; *stem* and *branches* perennial, scandent, and often very long; *leaves* alternate, one at each joint, cordate serrulate dentate, an inch or an inch and a half each way; the *berry* is round, the size of a pea, smooth, red, succulent, and one celled; *seed* solitary, obovate, and covered with a dark-brown spongy integument; the *perisperms* conform to the seed.

Of the eighteen species of *cissus*, noticed by Willdenow, six, he says, are natives of India* and other Eastern countries. Four species grow in Jamaica, none of which, however, appear to be there considered as medical. But Barham† tells us, that he thinks the berry of the *cissus acida* might be turned to account in dyeing, staining or colouring, from the appearance of the dark coloured lamp-black looking substance, which can be squeezed out of it. The cissus latifolia is common in Ceylon, and is there called *galberaya*; it is the *schunambu valli* of Rheede (Mal. vii. p. 21. t. 11.). Our article is noticed by

* Roxburgh, however, mentions several others not spoken of by Willdenow, and gives an account of no less than fifteen species as natives of Hindoostan. See Flor. Indica, p. 423.

† See his Hortus Americanus, p. 175.

Loureiro, who tells us, that the Cochin-Chinese call it *dee-xanh-voung*, but he says nothing of its medicinal virtues. Eleven species of cissus are growing in Ceylon, and nineteen are in the Hortus Bengalensis, p. 11.

CCLXI.

PEETANDALE-COTTI (Mal.) *Vuttei khilloo-khilloopie* பீதகதகலுகேகடடி (Tam.) *Ghe-legherinta* (Tel.) *Kiligilippé* (Cyng.) *Bun-sun* (Hind.) *Blue-flowered Crotularia.*

CROTULARIA VERRUCOSA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Vierkantige Klapperschotte* (Nom. Triv. Willd.).

I have given this plant a place here, on the authority of Rheede *, who informs us, that the juice of the leaves is supposed to be efficacious in diminishing salivation: It is an annual, common in the woods of Malabar, but appears to be also a native of Java, the Philippine Islands, and Ceylon.

Of the essential character of the genus, Willdenow says, "*Legumen* turgidum, inflatum, pedicillatum; *filamenta* connata, cum fissura dorsali" (Spec. Plant. vol. iii. p. 972.).

The species in question has a four-cornered herbaceous *stem*, which is erect and flectuose, and rises to the height of about three feet or more; the *leaves*

* See Hort. Malab. ix. p. 53. t. 29.

are simply ovate,* warted, of a pale green, and on short leaf stalks; the *flowers* are alternate, smooth, and of a light-blue colour, succeeded by short, turgid *pods* inclosing one row of kidney-shaped seeds. The plant is common on Ceylon, and called by the Cyngalese *nil-adana-hiriya*.

CCLXII.

PERIN PANEL பெரிண பானல (Hort. Mal.)

Perin panel is the name of a shrub which grows in Malabar; with the dried leaves of it the natives prepare a fumigation †, that it is supposed to be of use in hysteria. I am uncertain whether this plant has as yet been botanically examined.

CCLXIII.

PHAINA-SCHELLI பயினசெல்லி or PAINA-SCHULLI (Maleālie). *Holly-leaved Acanthus.*

Acanthus Illicifolus (Lin.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Hulsenblattrige Barenklaue.*

Paina Schulli is the name given on the Malabar coast, to an ever-green shrub, which rises to the height of four or five feet, and divides into many

* See Flor. Zeyl. 277.
† See Hort. Malab. part v. p. 30.

branches. We are told by Rheede *, that the tender shoots and leaves, when ground small and soaked in water, are supposed to possess virtues, as an external application in cases of snake-bites.

Of the genus, Willdenow says, "*Cal.* bifol, bifidus; *cor.* 1-labiata, deflexa, 3-fida; *caps.* 2-locularis" (Spec. Plant. vol. iii. p. 397.).

The species in question has, as the name indicates, *leaves* much resembling those of the common holly, and which like them are armed with spines; the *flowers* come out singly, in an upright raceme, at the end of the stalk; they are white, and are shaped like those of the common *acanthus*. Our article would appear to be the *aquifolium Indicum* of Rumph. (Amb. vi. p. 163. t. 71.). It is the *jerujo* of the Javanese, and was recommended by Bontius for its expectorant qualities.†

CCLXIV.

PHAL-MODECCA ⊔ⲁⲧⲟⲩⲉⲗⲟⲧ⊔ⲟⲕⲕⲁⲧ (Maleālie). *Vidārī* विदारी (Sans.) *Panicled Bindweed.*

CONVOLVULUS PANICULATUS (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Campanaceæ. *Rispenblutige Winde* (Nom. Triv. Willd.).

The root of this species of convolvulus, when

* See Hort. Mal. part ii. pp. 93, 94. t. 48.

† It is a plant in great request amongst the Siamese and Cochin-Chinese, and called by the latter *cay-o-ro*, who consider it as cordial, attenuant, and useful in paralysis and asthma. See Flora Cochin-Chin. vol. ii. p. 375.

dried in the sun, reduced to powder, and boiled with sugar and butter, Rheede * says, is supposed on the Malabar coast to promote obesity, and moderate the menstrual discharge.

Of the genus, Willdenow says, "*Cor.* campanulata, plicata; *stigm.* 2; *caps.* 2-loccularis; loculis dispermis" (Spec, Plant. vol. i. p. 844.).

Of the species, he adds, "c. foliis palmatis; lobis septenis ovatis acutis integerrimus, pedunculis paniculatis." And Miller observes, that it varies with three or five-lobed leaves, in sandy situations in Malabar. It would appear to be the *ipomoea mauritiana* of Jacq. Collect. iv. p. 216, and the *ha-angilla* of the Cyngalese.

Convolvulus is a most numerous genus, one hundred and twenty species having been already scientifically described, of which twenty-two are natives of India. Neither the *convolvulus scammonia*, nor *convol. jalapa* grow in India, though I have no doubt but that they would both thrive in that country; and I think it a pity, that the experiment is not made; the first is a native of Syria and Cochin-China, the last of Mexico!

The *convolvulus turpethum* (to be more particularly mentioned under the head *Shevadéi Vayr*) in this chapter, is esteemed as a valuable and powerful cathartic amongst the Hindoos; and I have no doubt, but that the resinous substance which exudes from the root when wounded, would be found a most valuable medicine if properly prepared. The *convol. repens* is also a native of India, and its leaves are occasionally eaten; it is the *ballel* of Rheede; but we are told by Sloane, according to Lunan, that the plant in Jamaica is con-

* See Hort. Malab. ii. pp. 101, 102. t. 49.

sidered as of a very purging quality; the powder being given in broths.

The species *Brasiliensis*, which has got in Jamaica the trivial name of the *sea-side potatoe-slip*, according to the testimony of Browne and Sloane, is a peculiarly strong cathartic; the root, the first tells us, is used in dropsical cases; the second informs us, that the leaves, which are temperately warm and emollient, are employed in preparing baths for similar affections. Plumier* recommends the inspissated juice as a drastic purge, in doses of from twelve to fourteen grains; its severity being tempered, if necessary, with almonds, sulphur, or cream of tartar.

CCLXV.

PIA-AMOU-LECK (Siam).

This is the name of a very bitter medicinal root, which Dr. Finlayson found in Siam; it is of a soft texture, with a smoothish bark, its colour yellow, and it is supposed to be cooling in fevers; it is used grated down with water upon a stone, and the mixture then smeared upon the body; it is also given internally; its Portuguese name is *pargu marga* i. e. lignum amarum.

* See Lunan's Hortus Jamaicensis, vol. ii. p. 107.

CCLXVI.

PIDAROGHANIE பிதரோகனி (Tam.).

PIDAROGHANIE.

This is a very scarce, small, light, yellow-coloured, very bitter root, which the native doctors suppose to have virtues in strengthening the eyes; a strong infusion is used as a colyrium. Of what plant it is the root, I have not been able to ascertain; several *Vytians* have told me, that its operation taken internally is violent and drastic*; future research may prove more successful. I have been informed, that the same name is also given to the white *hellebore* (veratrum album), and the roots may be confounded. The v. album is, we know, a native of the Southern and Eastern tracts of Russia and of Italy.

CCLXVII.

PINNAY UNNAY பினஉனபேபணஉன (Tam.) *Surpunka tail* سرپن کاتیل (Duk.) *Ponna noonay* (Tel.) *Oil of the Calophyllum Inophyllum.*

CALOPHYLLUM INOPHYLLUM (Lin.).

Cl. and Ord. Polyandria Monogynia. *Grosses Schonblatt* (Nom. Triv. Willd.).

The kernels of the nuts of this large and most beautiful tree, have a bitterish, and, when ripe, a somewhat unctuous taste. The native Indians, like

* It is used by the farriers to purge horses.

the inhabitants of the Philippine islands, occasionally prepare from them a fixed oil, which has a grateful smell, and which they highly prize as a valuable external application in rheumatic affections. In Travancore it is much used for burning in lamps.

Of the genus, Willdenow says, "*Cor.* 4-petala; *Cal.* 4-phyllus, coloratus; *drupa* globosa" (Spec. Plant. vol. ii. p. 1159.).

The species which is our present article, is the *sultan champa* of the Hindoos of the higher provinces, it sometimes rises to near one hundred feet high, and of proportionate thickness; the *leaves*, which are oval, are nearly a span long, and about four inches broad; from the *root* exudes a whitish clear gum, without any scent; but the *flowers*, which are white, eight petalled, and grow in racemes, have a most delightful odour; the *fruit* is about the size of a walnut, under a fleshy cover and a woody shell, having a very oily kernel, which is bitter, and yields a yellow resinous juice. Dr. Horsfield, in his Account of Java Medicinal Plants, informs us, that on that island this tree is said to possess diuretic and expellent properties. It may be found minutely described by Burman in his Thesaurus Zeylanicus (113.). Rumphius * speaks of it under the name of *bintanger maritina*. It is the *ponna-maram* of Rheede † (Mal. iv. p. 76. t. 38.), and the *tel-domba* of the Cyngalese; the appellation, however, they bestow on the only other species, the *calophyllum calaba*, is *gæta-keena*, which also grows in Malabar, and is the *tsierou-ponna* of Rheede (Mal. iv. p. 81. t. 39.). The *calophylum calaba* is a lofty tree; the wood of which

* Amb. ii. p. 211. t. 71.

† Rheede says, that the tears which distil from the tree and its fruit are emetic and purgative. Hort. Mal. part iv. p. 80.

is useful for ship building, and making masts; the tree itself is called *the Santa Maria* in Jamaica; and Barham, in his *Hortus Americanus* (p. 18.), extols it much, on account of its yielding an admirable balsam of great efficacy in healing green wounds.

I shall conclude what I have got to say of the *calophyllum Inophyllum*, at this time, by observing, that from the authority of Lamarck, it appears to be from this tree that the resin called *tacamahaca* is obtained: "Ex hac arbore venit resina *tacamahaca* dicta, quæ in insulis Borboniæ, Madagascariæ colligetur *; and by stating also, that the English in India sometimes bestow on it the name of *the Alexandrian laurel;* it grows to an enormous size in Malabar, but by all accounts, still larger in the island of Balambangan, and along the shores of *Banguey* and *Sampanmangio*, where it has got the appellation of *pālo-maria* and *dancawn*. With respect to its uses in ship building, the reader is referred to Dalrymple's Oriental Repository (vol. ii. p. 18.). I am somewhat inclined to think, that this is the tree which Alexander's army found growing in the country of the Gadrossi †; and which Arrian describes as resembling a laurel with white blossoms of a most delightful odour (See Arrian by Mr. Rooke, vol. ii. p. 15.)! and hence, perhaps, its English name in India. See article Calophyllum Inophyllum, in other parts of this work.

* Lamarck, Encycl. i. p. 457.

† The ancient *Gedrosia* is the present *Mekran*, which lies betwixt the province of *Kerman*, in Persia, and the country of *Scind*. See a Geographical Account of the Persian Empire, by Major Macdonald Kinneir.

CCLXVIII.

PLAOU-GAI (Siam.).

Name of an astringent root which Dr. Finlayson found in Siam, employed by the natives for checking diarrhœa.

CCLXIX.

PLUN-MAI (Siam.).

A root considered in Siam as diuretic; found by Dr. Finlayson in that country.

CCLXX.

PODOOTALEI போதுதலை (Tam.) *Tan* تان (Duk.) *Bokenakoo* (Tel.) *Hirimandetta* (Cyng.) *Bhooi-okra* (Hind.) *Vashira* वशीर (Sans.) *Creeping Vervain.*

VERVENA NODIFLORA (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Kopfblutiger Eisenhart* (Nom. Triv. Willd.).

The tender stalks and leaves of this low-growing plant, which last are in a slight degree bitter, the native practitioners prescribe, when toasted, in infusion, in cases of children's indigestions, to the extent of two ounces twice daily; it is also sometimes ordered as a drink for women after lying-in.

Of the genus, Willdenow says, "*Cor.* infundibulif. subæqualis curva; *calysis* uncio dente truncato; *semina* 2; s. 4-nuda (stam. 2. s. 4.)." (Spec. Plant. vol. i. p. 115.).

The species in question is a native of Southern Italy and Sicily, as well as India, and has, at different times, had very different appellations bestowed on it; it being the *blairia nodiflora* of Gærtner, and the *zapania nodiflora*, of Lamarck, and I think, the *capitata* (Forsk.). The *stem* is herbaceous, creeping, ascending from three inches to a foot in length, subdivided, rounded, marked with lines and smooth. Willdenow says of it, "V. tetrandra, spicis capitato-conicis, *foliis* cuniformibus dentatis, caulerepente." The *spike* is terminating, roundish, composed of small whitish or rose-coloured *flowers*; it has two *seeds*, roundish, flatter on one side than the other. The *verbena officinalis*, which, at one time, was included in our Materia Medica, and was supposed to be efficacious in scrophula, according to Morley, is not a native of India; it grows at Corfu, and is held in high estimation in several disorders by the modern Greeks (who call it Σταυρο χορτον; as we learn from Michelis Flora Della Corcirese, p. 4.); it would also appear to be a native of Cochin-China, and Peru, where, according to Ruiz*, it is supposed to be useful when given in decoction, in cases of obstructed menses. The ancients† are known to have put a high value on vervain; it was not only considered as having powerful virtues in cases of snake-bites, but as a sovereign remedy in various other diseases; and was employed in sacrificial rites and incantations, and worn as an amulet.

* See Flora Peruviana, vol. iv. p. 22.

† See Pliny, i. 25. cap. 9.

Of the seven species of verbena found in Jamaica, two seem to be medicinal, the *verbena Jamaicensis* and the *verb. lappulacea;* the first, according to *Sloane* and *Jaquin*, is much used in the belly-ache, and in poultices for the dropsy. Sloane* informs us, that a decoction of it, with spikenard (ballota suaveolens), cures dropsy; and Hughes† seems to believe it to be a powerful deobstruent. The second species, *lappulacea*, or burry vervain, has got in the West Indies the name of the styptic or velvet bur, and is there reckoned a valuable vulnerary subastringent, commonly applied to bleeding wounds; and is also, according to Lunan, esteemed as an excellent application in all manner of sores where the habit is relaxed.

The Cochin-Chinese call the verbena officinalis *co-roi-ngua*, and consider it is useful in nervous complaints, and as a deobstruent in dropsy (Vide Loureiro Flor. Coch.-Chin. vol. i. p. 27.).

CCLXXI.

POI MOOSHTIE also *Poon mooshtie* (Tam.) also *Vāta tirupie* (Tam.) *Velvet-leaf.*

Cissampelos Pareira (Lin.).

Cl. and Ord. Diœcia Monadelphia. Nat. Ord. Sarmentaceæ. *Steintreibende Grieswurz* (Nom. Triv. Willd.).

The leaves of this plant are considered, by the *Vytians*, as of a peculiarly cooling quality, but the

* See his "Catalogus Plantarum quæ in Insula Jamaica sponte proveniunt."

† See his Natural History of Barbadoes.

root is the part the most esteemed; it has an agreeable bitterish taste, and is considered as a valuable stomachic; it is frequently prescribed in the latter stages of bowel complaints, in conjunction with aromatics.

The *cissampelos pareira* has been very highly extolled by several writers for its medical virtues, particularly by *Sloane*, *Marcgraaf*, *Barham*, and *Wright*. The first speaks of the efficacy of the leaves, as a vulnerary for a green wound; the second recommends the root given in decoction, in the stone. *Lunan* notices its powers as an antidote against poisons. *Barham* (p. 200.), as quoted * by the gentleman last mentioned, has this remarkable sentence respecting it: "I knew a physician who had performed great cures on consumptive persons, who informed me, that his remedy was simply a syrup made of the leaves and root of this plant, for which he had a pistole a bottle."

Of the genus, Willdenow says,

"Masculi. *Cal.* 4-phyllus; *cor.* 0; *nect.* rotatum; *stam.* 5; *filam.* connatis,

"Feminei. *Cal.* 1-phyllus, legulato, subrotundus; *cor.* 0; *styli.* 3; *bacca.* 1-sperma" (Spec. Plant. vol. iv. p. 861.).

The species † in question, which is equally a native of the East and West Indies, has a climbing and twisting stem of considerable length; the leaves are subpeltate, cordate, roundish, and tomentose, and as smooth as velvet; the fruit is a roundish, compressed

* See Hort. Jamaicensis, vol. ii. p. 255.

† Five species are to be found in the Honourable Company's botanical garden at Calcutta, three of which have got Hindoostanie names; but two species appear to grow on Ceylon, the *hernandifolia* and *convolvulacea*.

scarlet drupe, containing a single, very hard nut, which is two-celled. *Browne*, in his Natural History of Jamaica (p. 557.), describes the plant thus, under the name of ciss. scandens, " foliis peltatis orbiculato; cordatis villosis, floribus, masculis racemosis; femineis spicatis, spicis foliosis." I shall finish what I have to observe of our present article by noticing, that Dr. W. Wright, in his Account of the Medicinal Plants of Jamaica, has these words in speaking of the roots: " They are black, stringy, and as thick as sarsaparilla, agreeably aromatic and bitter, and have been ordered in nephritic disorders, in ulcers of the kidneys and bladder, in humural asthma, and in some species of jaundice; a decoction of them is used for pains and weakness of the stomach." See Hortus Jamaicensis (vol. ii. p. 355.).

CCLXXII.

POODACARAPAN PUTTAY (Tam.) *Gookébūkéluckrié* گوكيبوكيلكڑي (Duk.) *Urene* (Cyng.) *Bhūdinarti* (Mal.) *Pau de merda*, also *Pau sujo* (Port.) *Fetid Bark.*

This bark the natives suppose to have sovereign virtues in cases of carapang*, as an external application, pounded fine and mixed with a little castor-oil. The smell of the dark-coloured wood and bark exactly resembles that of human ordure. I at first concluded that they must, of course, belong either to the *anagyris fœtida* or *sterculia fœtida;* but, it

* The Tamool name of an inveterate sort of itch.

would appear, that Thunberg* had ascertained that our article was a part of neither: what it absolutely is, becomes a subject for future research. The *sterculia fœtida* will be noticed in another part and volume of the Materia Indica; its fruit is edible, and is particularly spoken of by Rheede (Hort. Mal. iv. p. 75.).

CCLXXIII.

POOVANDIE COTTAY பூவாந்திகொட்டை also *Manay poongung kai* (Tam.) *Ritah* రీఠా (Duk.) also *Rishta* रिष्ट (Sans.) *Bindaké hindee* هندي بندكي (Pers.) *Koomutti ghénzaloo* (Tel.) *Arishta* अरिश (Sans.) also *Phēnila* फेनिल (Sans.) *Notch-leaved Soap-nut Tree.*

SAPINDUS EMARGINATUS (Vahl.).

Cl. and Ord. Octandria Trigynia. Nat. Ord. Sapindi (Juss.) *Ausgerandeter Seifenbaum* (Nom. Triv. Willd.).

The capsule which covers the black seeds of this tree has, in its succulent state, a very singular sweetish-bitter taste, and a smell not unlike that of an over-ripe mango; it is considered by the *Vytians*, and I believe justly, as a valuable expectorant†, and is prescribed accordingly in humoral asthma, in the quantity of a quarter of a pagoda weight twice daily; it has also a very detergent quality, forming,

* See Thunberg's Travels, vol. iv. p. 234.

† We learn from the Flora Peruviana of Ruiz, vol. iii. p. 2., and vol. iii. p. 78., that in South America the plants possessing similar virtues are the *sauvagesia erecta* (Ruiz.) and the *oenothera grandiflora* (L'Herit.).

when bruised and agitated in hot water, a kind of suds, like that of common soap, which the natives use for washing their heads, &c.

Of the genus, Willdenow says, "*Cal.* 4-phyllus; *pet.* 4; *caps.* carnosæ, connatæ, ventricosæ" (Spec. Plant. vol. ii. p. 468.).

The species in question is the *gas-penela* of the Cyngalese, and is distinguished from all the others by its notched leaves. Vahl says of it (Symb. iii. p. 54.), "*Leaves* pinnate; *leaflets* oblong, emarginate, villose beneath; *rachis* simple; petals tomentose at the edge." Its branches are unarmed, round; the capsules are trilocular, subturbinate, coadunate, each subglobular, one or two frequently abortive, covered with dense yellow hairs*; the seeds, as I have already said, are black; the dried nut, as it appears in the bazars, with its shrivelled exterior, is altogether not unlike a small dried prune. I have been informed by my friend Dr. Sherwood, that he has known several instances of the good effects of putting a little of the suds formed by the soap-nut of this tree into the mouth of a person in an epileptic fit, by which means he was instantly brought to his recollection.

The *sapindus emarginatus* is very apt to be confounded with the *sapind. saponaria*, from this circumstance, that the seed vessels of both possess a detergent quality, and are equally used as soap; but this last has not as yet, I believe, been discovered in Hindoostan, but grows at Cochin-China, and is there called *cay-bon-hon*, and the fruit used as soap; it is also common in Java, and is there termed by the natives *rarak;* it is found on all the South-side

* See Miller.

hills of Jamaica, and has been particularly described by Sloane (v. p. 131.), likewise by Browne, in his "Natural History of Jamaica" (p. 206.). The medicinal properties of the fruit of the sapind. sapon. have been noticed by Lewis, in his Mat. Med., who tells us, that a tincture or extract prepared from it is of great efficacy in chlorosis, and that such virtues were first published by Marloe, in a letter to Mr. Boyle. For further particulars, the reader may consult Barham's *Hortus Americanus* (p. 175.); he may also refer to an account of it, which was published by Dr. Horsfield, in the Transactions of the Batavian Society (vol. vii.), in which is detailed a chemical analysis of the fruit. The Dutch call the tree *rarak boom*, and use the fruit of it as soap, in the same way that the native Malays do; indeed, I believe that rarak* is the proper Malay name of the tree.

CCLXXIV.

POLLOKEYU (Javanese).

DAIS OCTANDRIA (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Vepreculæ.

The seeds of this is a common purge amongst the Javanese.

* See Crawfurd's History of the Indian Archipelago, vol. i. p. 457.

CCLXXV.

PONNAMPOU-MARAVARA பொன்னம்பூ மரவாரா (Hort. Mal.) *Swarna pushpa* स्वर्ण पुष्प (Sans.) also *Vanda*, वन्दा (Sans.) *Spatulate-leaved Limodorum.*

LIMODORUM SPATULATUM (Willd.).

Cl. and Ord. Gynandria Monandria. Nat. Ord. Orchideæ. *Spateblattriger Dingel* (Nom. Triv. Willd.).

Rheede says of this plant, that the powder of it mixed with honey is supposed, on the Malabar coast, to temper the bile and abate phrenzy; that the flowers, which are of a golden colour, reduced into powder, are of use in consumptive cases, also in asthma and mania.*

The genus is thus described by Willdenow: "*Cor.* 5-petala subpatens; *labellum* basi antice in cornu liberum productum; *anthera* terminalis." (Spec. Plant. vol. iv. p. 122.)

Our article is a parasitical plant, which does not appear hitherto to have particularly called the attention of many botanists; it was formerly placed by Linnæus in another genus, Epidendrum (Spec. Plant. 1348.), but removed by Willdenow to where it now is. Miller informs us, that this, with twenty-two other species†, are natives of India, and are de-

* See Hort. Mal. part xii. pp. 7, 8. t. 3.

† Four species are natives of Jamaica, one of which is medicinal, according to Browne, the *limodorum altum;* the root of which, he says, is somewhat transparent; its taste bitterish and a

scribed by Kœnig at great length, as may be seen in the sixth *fasciculus* of Retzius's Observations. Willdenow's account of it is briefly, "L. caulescens, foliis oblongo-spathulatis obtusis, racemis axillaribus labello bifido, cornu abbreviato." Spec. Plant. vol. iv. p. 125. Sir W. Jones, in speaking of it, says, that the leaves are sheathing, opposite, equally curved, and sword-formed; and that it commonly attaches itself to the mango and *cratava religiosa* trees. See his works, vol. v. p. 150.

CCLXXVI.

PONGOLAM പൊങ്ങോലം (Mal.).

Pongolam is the name given on the Malabar coast to a plant which, Rheede tells us, has great medical virtues; of it he says, "Calefacit, exsiccat, discutit, omnia vitia exfrigore orta, ut et humores pituitosos ac febres." *

I have not been able correctly to ascertain what it is.

CCLXXVII.

POOL (Javan.) *Citron-leaved Tabernæmontana.*

Tabernæmontana Citrifolia (Var.).

little warm, and may be used with great propriety as a stomachic. See Hort. Jamaicensis, vol. i. pp. 395, 396. Nine species of limodorum have a place in the Hortus Bengalensis, see p. 63.

* Vide Hort. Mal. part vii. p. 11.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ.

This is a small tree, which rises to the height of sixteen feet, covered with a grey bark, abounding in milky juice; it has opposite ovate leaves, bears a few white flowers, and has brown seeds lodged in a soft orange coloured pulp. The tree has a place amongst the Tonics of the Javanese; the bark, which is a pure bitter, is used. Rumphius speaks of the anti-febrile virtues of the plant; it is a native of Martinico as well as Java; the French call it *bois-laiteux*.

CCLXXVIII.

POOLAVAYR PUTTAY பூலாவைர்பட்டை (Tam.) *Poolugooda-putta* (Tel.) *Wœl-kayilla* (Cyng.) *Krishna kāmboji* कृष्ण काम्बोजी (Sans.) *Bark of the Many-flowered Phyllanthus.*

PHYLLANTHUS MULTIFLORUS (Klein.).

Cl. and Ord. Monœcia Monodelphia. Nat. Ord. Tricoccæ. *Vielblumiger Phyllanthus* (Nom. Triv. Willd.).

This bark, as it appears in the Indian bazars, is commonly in pieces about a foot long, and as thick as the wrist, of a dark colour outside, and of a faint sweetish taste; it is considered as alterative and attenuant, and is prescribed in decoction, in the quantity of four ounces or more twice daily.

The genus as described by Willdenow, has already been given under article *Nellie poo* in this vol. and chapter.

Our species, which is in Bengalie called *Pankoos-*

hee, and in Cyngalese *wæl-kayila*, would appear to have been hitherto only particularly noticed by Dr. Klein of Tranquebar, who being the friend of Willdenow, transmitted to him such information as enabled the great botanist to speak of it as he does, in the System, (vol. iv. p. 581.); who says, "P. foliis oblongis acutisculis, pedunculis axillaribus aggregatis, ramulis pinnæformibus teretiusculis pubescentibus:" again, "Rami teretes lignosi fusci læves crassitiæ fere pennæ anserinæ; *folia* semipollicaria vel minora oblonga apice et basi parum angustata, interdum etiam rotundata, semper glabra; flores axillares pedunculati 3 ad 6.; ob ramulos pinnæformes copiosos floribus numerosioribus videtur instructus." I find the plant is a native of Ceylon. See Moon's Catalogue of Ceylon Plants.

CCLXXIX.

POOLEAN (Jav.).

Ophioxylon Spinosa (Lin.).

This is, I find, placed amongst the Tonics, in Dr. Horsfield's list of Java Medicinal Plants.

CCLXXX.

POOLIARAY பூளியாரை (Tam.) *Chua-miba-chia* (Coch. Chin.) *Umbuti* انبوتي (Duk.) *Poollie chinta* (Tel.) also *Pulla chinta* (Tel.) *Amrool* (Hind.) *Chukrikā* चुक्रिका, also *Ambashtā* अम्बष्टा also *Amlikā* अम्लिका (Sans.) *Yellow-Wood Sorrel.*

Oxalis Corniculata (Lin.).

Cl. and Ord. Decandria Pentagynia. Nat. Ord. Gruinales. *Gehornter Sauerklee* (Nom. Triv. Willd.).

The small sour leaves, tender stalks, and flowers of this plant, are prescribed by the Hindoos, as by the Cochin-Chinese, in electuary, in cases in which cooling medicines are required, to the quantity of two tea-spoonfuls twice daily. Of the genus, Willdenow observes, "*Cal.* 5-phyllus; *petala* unguibus connexa; *stam.* inæqualia, 5-breviora exteriora basi connata; *caps.* angulis dehiscens, 5-gona." Spec. Plant. vol. ii. p. 772. See Flor. Coch. Chin. (vol. i. p. 285.) Thunb. Japon. (p. 187.), and Rumph. Amb. (i. 8. c. 64. p. 277.)

The species in question is an annual plant, with a prostrate rooting stem; *peduncles* two-flowered, styles almost equal; the *leaves* are alternate, ternate, collected in a small number at the rooting part of the *stems*. It grows in the woods of the Coromandel coast, but is also a native of Southern Europe, of Cochin-China, and Japan. It would seem to be the *oxys lutea* of Bauh. Hist. (ii. p. 388.), and the *oxys flavo flore* of Claus. Hist. (ii. p. 248.).

The *oxalis sensitiva* is a native of Cochin-China, and there called *chan-tsu;* it is also a native of Java, and is there called *kating-ang*, and placed by the natives amongst their tonics; it is common on the Malabar coast, where it is termed *todda-vaddi* (Rheede, Mal. ix. p. 33. t. 19.).

There is but one species of this genus in Jamaica, *oxalis stricta*, and which, according to Sloane and Browne, has medical virtues; the first informs us, that the leaves bruised and mixed with a little fine salt, remove films, funguses, and proud flesh from the eye; and the last tells us, that it is a pleasant

cooler and diuretic.* Eight species of oxalis grow in the botanical garden of Calcutta. Our article is indigenous in India, and is called in Bengalese and Hindoostanie *Amrool.* Three species grow in Ceylon.

CCLXXXI.

POOLIARILEH KALUNG (Tam.) *Woorsi-pala* (Tel.) *Three-leaved Cissus.*

CISSUS ACIDA (Lin.).

Cl. and Ord. Tetrandria Monogynia. Nat. Ord. Hederaceæ. *Saur Klimme* (Nom. Triv. Willd.).

The bulbous roots of this plant are sliced and applied to buboes to drive them back; they are also sometimes prescribed internally, ground small, and in conjunction with sugar in pile cases.

The genus, according to Willdenow, has already been noticed under the head of *perundei codi.* The species in question, is common in the woods of the Coromandel coast; and has been minutely described by Browne, (Jamaica, 147.), and Swartz, also by Barham (p. 175.); it is a scandent shrub, with a flexuose, round *stem,* tinged with purple, succulent and jointed, with short *branches,* and *leaves* alternate and petioled; the *umbells* are five-cleft; *umbellets* five-flowered; *corolla* four-parted; germ truncate; berry black, and surrounded by the calyx.

Of the use that the *cissus acida* might be turned to in the arts, according to Barham, I have taken some notice under the head of *perundei codi* in this

* See Hort. Jamaicensis, vol. ii. p. 304.

chapter. The species *setosa* (Roxb.), the *barubut-sali* of the Tellinghoos, is an extremely acrid plant; the leaves toasted and oiled, are applied to tumours to bring them to suppuration. See Flora Indica, vol. i. p. 428. Nineteen species of cissus are growing in the botanical garden of Calcutta.

CCLXXXII.

POOLLIUM VEREI பூலிலைகாய் (Tam.) *Umlika chincha* املي کا چنچا (Duk.) *Tókmitāmari* (Persian). *Chinta vittiloo* (Tellingoo). *Tintilī vīja* तिन्तिलीवीज (Sans.) *Cay-me* (Cochin-Chin.) *Stone of the Tamarind Tree.*

Tamarindus Indica (Lin.).

This very astringent substance is sometimes prescribed by the *Vytians* in dysenteric complaints, and also as a tonic in *rútta vārie* (Tam.), *menorrhagia;* it is usually given in the form of an electuary, in the quantity of two pagodas weight, twice daily. In times of scarcity the poor eat the tamarind stones; after being roasted, and then soaked for a few hours in water, the dark outer skin comes off, leaving the seeds below, white, soft, and in taste not unlike a field bean; these are boiled or fried, and eaten. See article Tamarind*, in vol. i. of this work.

* A confection prepared with the flowers is supposed, in Ceylon, to have virtues in obstructions of the liver and spleen. See Scott's excellent Inaugural Dissertation on the Medicinal Plants of Ceylon, p. 30.

CCLXXXIII.

POOLLUGHOO SHUTTUM பூனுகுசட்டம் (Tam.) *Zubād* زباد (Arab.) *Javad* جواد (Duk.) *Gandhamārjāra rīja* गन्धमार्जारबीज (Sans.) *Zibet Perfume.*

Viverra Zibetha (Lin.).

Poollŭghoo shuttum, as it appears in the bazars, is the Tamool name of a large, glandular, dried receptacle with contents, which is procured from a species of *civet-cat*, found occasionally in Lower Hindoostan. The animal itself is called in Tamool *poollughoo pooney*, and in Tellingoo *poonughoo pilie*. The article is chiefly used, when diluted, as a perfume, but is also considered by the Hindoos as having anodyne and antispasmodic properties, resembling cactor. The animal is by no means uncommon on the Malabar coast, where it is called *meruva*, in the Malayalie language. Turpin, in his "Histoire de Siam," informs us, that the civet-cat is a native of that country; it is to be found in Brazil, and used formerly to be brought into Holland as an article of commerce. The civet, which, in the northern tracts of Hindoostan, is called *katas*, is secreted in the large glandular receptacle above mentioned, situated beneath the tail of the animal, which has the power, by means of muscular compression, of squeezing out the perfume when it pleases: when good, it is of a clear yellowish white colour, soft, unctuous, and of about the consistence of honey; like musk, its smell is unpleasant till diluted; it is sometimes adulterated with ox-gall, storax, or honey.

Though certainly antispasmodic to a certain degree, it is scarcely ever used now, in Europe, but as a perfume to augment the smell of odoriferous substances, chiefly waters and spirits, such as the *lilly of the valley*, roses, rhodium, orange flowers, yellow saunders, &c. The Italians make it an occasional ingredient in perfumed oils, and in this way obtain the whole of the scent, for oils dissolve the entire substance of the civet.

Seven species of this animal have been noticed by writers on natural history; we shall mention but three, from all of which the civet is procured of the same quality. 1. Our article, which is peculiar to the Asiatic continent, from Arabia to Malabar, and, according to Dr. Horsfield*, in the large islands of the Indian Archipelago; it is the *tanggalung* of the Malays, and frequently grows to the length of two feet six inches, and, compared with the other two, is a stout animal; its neck is short and thick, and breast full and distended; it is chiefly distinguished by having only a single black longitudinal dark-coloured line along the back, bounded on each side by a white one, and its comparatively mild disposition. 2. The *viverra rassia* (Horsf.), a name bestowed by Dr. Horsfield on this species from the Javanese word *rasa* (perfume); it is not more than one foot eleven inches from the end of the muzzle to the root of the tail; it is very ferocious, and has, in place of one, no less than eight regular parallel dark-coloured lines along the back; the marks or spots on the other parts of the body are the same with those of the zibetha, with this exception, that in the zibetha they are very dark, and in the rasse more

* See his excellent Zoological Researches on Java, No. vi.

feint. In the rassia the rings of the tail are strongly marked, and go uniformly round the tail; in the zibetha they are scarcely perceptible in the under side. 3. The v. civetta (Lin.), which is peculiar to Africa, and which is known at once by its chesnut-coloured mane, and its back being spotted with a cinerous brown.

CCLXXXIV.

POOMICHACAREI KALUNG (Tam.) *Boomisakhera gudda* (Tel.) *Bhū-sarkara* भूशर्कर (Sans.)

This root, in external appearance, is not unlike liquorice root; it also somewhat resembles it in taste, but is not nearly so sweet; it is prescribed, in decoction, as an alterative and diet drink. I have not been able to ascertain from what plant it is procured, but hope that future research may be more fortunate. What I saw of the *poomichacarei kalung* was brought to me from the medicine bazar of Trichinopoly, and was said to have been gathered in the woods of Malabar.

CCLXXXV.

PONAVERIE பொன்னவரை (Tam.) *Pȳdu ténghadoo* (Tel.) *Kulkashinda* (Beng.) *Oorootora* (Cyng.); see Burm. Zey. t. 98. *Swarnamayahari* स्वर्णमयहरि (Sans.) *Sophera Cassia.*

Cassia Sophera (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ. *Sopheraartige Cassie* (Nom. Triv. Willd.).

The juice of the leaves of this low-growing plant, as well as of the fresh root, is reckoned a sovereign application in ring-worm, commonly prescribed in conjunction with lime-juice. The plant is the *ponnam tăghĕra* of Rheede (Mal. 2. p. 101. t. 52.), and the *gallinaria* acutiflora of Rumphius (Amb. v. p. 283. t. 97. f. 1.); it is the *cambang-luning* of the Malays, and, Dr. Horsfield informs us, is ranked by the Javanese amongst their cathartics. The genus has been already noticed. The species in question is best described in the Flor. Zeyl. "Facies foliarum g. ligustrinæ; folia pinnata, foliolis circiter 10 parium, coriariæ facie, foliolis lanceolatis, sive ovato-lanceolatis, acutis viridibus herbaceis glabris subæqualibus subpetiolatis; racemus parvus ex alis, corollæ albido flavescentes venis fuscis." The three upper anthers are small and barren, the three lowest bowed, and the four middle ones straight. The cassia sophera is also a native of China, and of the South Sea Island *Tongalabu*. It is indigenous in India, and may be seen growing in the botanical garden at Calcutta. See Hortus Bengalensis (p. 32.). The plant is the *xy-tsi-tau* of the Chinese, but who do not appear to attach to it any peculiar virtues, and may be seen mentioned by Forskahl in his Flor. Egypt. Arab. under the name of صغير zufeer.

CCLXXXVI.

POONGA-MARUM பூங்கமரம் (Tam.) *Kurrunje ké jar* كرنجه كي جهار (Duk.) *Canaga* (Can.) *Kanoogamanoo* (Tel.) *Caranj* (Hind.) *Karanja* करंज (Sans.) also *Naktamāla* नक्तमाल (Sans.) *Woody Dalbergia.*

Dalbergia Arborea (Willd.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Baumartige Dalbergie* (Nom. Triv. Willd.).

The juice of the fresh root of this beautiful tree the *Vytians* use for the purpose of cleaning foul ulcers, and consider it as particularly applicable in cases of fistulous sores, disposing them to close, and heal. A fixed oil is prepared from the seed of the legume, called in Tamool *poonga unnay*, and in Canarese *hoingay unnay*, supposed to be an efficacious application in the itch, and as an unction in rheumatic affections. The tree is the *caju galedupa* of Rumphius (Amb. vol. ii. p. 59.), and is the *pongam* or *minari* of Rheede (Hort. Mal. 6. p. 5. t. 3.).

Of the genus, Willdenow says, " *Cal.* obsolete, 5-dentatus; *legumen* foliaceum planum non dehiscens; *semina* solitaria vel bina (See Spec. Plant. vol. iii. p. 900.).

The species in question is remarkable for the thick and grateful shade it affords, and its profusion of fine deep-green leaves, which are about three inches long, and pointed; the flowers are small, white and pink mixed; but we shall, for the reader's satisfaction,

give Willdenow's description: "*Arbor* excelsa; *folia* alterna pinnata; *foliola* quinque petiolata opposita ovata acuminata venosa glabra bi vel tripollicaria; *racemi* axillares solitarii longitudine foliorum, quandoque longiores; *germen* pilosum; *stigma* simplex capitatum; *legumen* oblongum utrinque acutum submonospermum."

The tree is a native of Ceylon, and is there called *magul-karanda*. Fourteen species grow in the botanical garden of Calcutta.

CCLXXXVII.

POONJANDEPUTTAY (Tam.).

This is a sweet-smelling, pleasant tasted, filamentous, brownish bark, which was brought to me by a *Vytian* of Negapatam, and which, he informed me, was much prized for its alterative qualities, given in decoction; at the same time he told me, that it was brought from the Malabar woods. It is hoped that future investigation will lead to more satisfactory information.

CCLXXXVIII.

POURSUNGHAI பூவரசங்கபட்டை (Tam.) *Parspipal* (Hind.) *Ghenghéravie kāiā* (Tel.) *Pāriska pull* پارس کا پھل (Duk.) *Cay-tla* (Cochin-Chin.) *Sooparshavaka* (Sans.) *Fruit of the Poplar-leaved Hibiscus*, or *Portia Tree*.

HIBISCUS POPULNEUS (Lin.).

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Pappelblattriger Hibiscus* (Nom. Triv. Willd.).

The bright yellow juice of the fruit of this tree, is, in its nature, a little glutinous, and of a taste somewhat resembling gamboge; it is employed as an external application in various cutaneous affections, particularly in that variety of *carpang* called the *Malabar itch;* and a strong decoction of the bark is used as a wash in the same complaints. A decoction of the bark is given by the *Vytians* internally, as an alterative, in the quantity of three or four ounces, twice daily. The tree is the *cay-tla* of the Cochin-Chinese, the *novella littorea* of Rumphius (Amb. ii. p. 224.), and the *buparite* of Rheede (Mal. i. p. 51. t. 29.). It grows large on Ceylon, and is there called *sooriya-gaha;* with the juice of the fruit the Cyngalese dye yellow.

Of the genus, Willdenow says, "*Cal.* duplex exterior pollyphyllus; *stigmata* 5; *caps* 5-locularis, polysperma" (Spec. Plant. vol. iii. p. 806.).

The species in question grows to the height of a small tree, with a thick trunk; the leaves, which are about four or five inches long, are heart-shaped and pointed, smooth, and of a solid texture; the corolla is large, without scent, and of a yellowish-white colour; the fruit a pericarp, in appearance, it is not unlike a small yellowish-brown shrivelled apple, five-celled, and contains many seeds, and a good deal of the yellow juice above mentioned. This plant is distinguished from most of its congeners by its "caule arboreo;" by far the greater part of the species are perennials, many have shrubby stalks, but some only herbaceous. The *poursunghai-márúm* shall be noticed in another part

of this work. Of the six species of *hibiscus* growing in Jamaica, three, according to Lunan's Hortus Jamaicensis, are medicinal; viz. *hib. sabdariffa**, the root of which, according to Dancer, is purgative, in doses of ʒij.; the *hib. abelmoschus*, the seeds of which smell strong of musk, and are, according to Dancer, emetic; and lastly, the *hib. ochra*, the leaves and pods of which, in infusion, is a substitute for linseed tea. Six species of this genus were growing in the botanical garden of Calcutta in 1814. See Hort. Bengal. (p. 96.).

Our article, with the species *sinensis mutabilis*, and *tibiaceus*, are natives of Java, and placed by the native doctors amongst their Emollients.

CCLXXXIX.

PORASUM VEREI பூவரசமரவேர் or PORASUM COTTAY (Tam.) *Módugā vittiloo* (Tel.) *Palāsa* पलाश (Sans.) also *Kinsuka* किंशुक (Sans.) *Seed of the Butea Frondosa.*

BUTEA FRONDOSA (Kœnig.).

Cl. and Ord. Diadelphia Decandria. *Belaubte Butea* (Nom. Triv. Willd.).

The juice of the seeds, which are contained within the very flat, oval, chesnut-coloured legume of the butea frondosa, is a medicine held in high estimation by the Tamool practitioners as an anthelmintic, in the quantity of a table-spoonful and a half twice daily, both

* The calyx of the fruit of this species has a most pleasant acid taste, and is made into jelly and tarts; the species has been lately brought to India from Jamaica.

in cases of tape-worm and ascarides. Dr. Roxburgh, in his account of the plant (Cor. Pl. i. t. 21.), informs us, that from wounds made in the bark of the tree, a beautiful red juice issues, which soon hardens into a ruby-coloured, brittle astringent gum *, which seems to contain a small quantity of resin, so differing from gum kino; an infusion of the flowers dyes cotton, which has been previously impregnated with a solution of alum, a beautiful bright yellow †; a little alkalie added to the infusion, changes it to a deep reddish orange, which dyes unprepared cotton cloth of the same colour. Lac insects are frequently found on the small branches and petioles of the leaves. The natives appear to make no use of either the gum or flowers.

Of the genus, Willdenow says, "*Cal.* subbilabiatus; *corollæ* vexillum longissimum; *legumen* compressum membranaceum apice monospermum." Spec. Plant. vol. iii. p. 917.

The species in question is the *gas-kæla* of the Cyngalese; it is middle-sized, but sometimes a large tree, generally a little crooked, having an ash-coloured scabrous bark; leaves alternate, threeed, from eight to sixteen inches long, leaflets emarginated, or rounded at the apex; flowers ‡ papilionaceous, pendulous, numerous, large; seed one, lodged at the end of the legume.

By the Hortus Malabaricus (vol. i. p. 29.), it appears, that the wood and leaves of this tree which,

* A solution of it in water is of a deep-red colour, and this solution, by the addition of sal martis, changes into a good durable ink.

† See Dr. Kerr's account of the butea frondosa, in the Asiatic Journal for March 1817.

‡ They are of a deep-red, shaded with orange, and silver-coloured down.

is there called *plaso*, are used in religious ceremonies, and that the fruit is anthelmintic; the bark is given in conjunction with ginger in the cases of snake-bites. Dr. Sherwood informs me, that he has known a decoction of the seed, to which a little nitre had been added, prescribed with advantage in gravelly complaints. The tree is called پلاس *palās* in Bengalie and Hindoostanie, and پلاس پاپرا *palās pāparā* in Dukhanie: the Mahometans of Upper India name it *dhāk*.

Another species, *butea superba*, is a large twining shrub, a native of the Circar mountains; it also yields a similar kind of ruby-coloured astringent gum; the flowers may in like manner be used for dyeing yellow, and for preparing a yellow pigment. The shrub is the *tiga mádŭga* of the Tellingoos. Dr. Roxburgh, in speaking of it (Cor. Plants. vol. i. p. 23.), says, that he does not believe that the vegetable world produces any thing so gaudy; the flowers are incomparably beautiful, large, numerous, and of so vivid a red, that one of his best painters laboured in vain to imitate it. See Brutea Frondosa in other parts of this work.

CCXC.

PORONO JIWA (Jav.).

Dr. Horsfield, in his "Account of Medicinal Plants of Java," observes, that the natives of that country consider this plant as an antidote, in all cases in which poison has been swallowed: it is one of the remedies, he adds, in which they place most confidence. It is only found in elevated situations;

the stem is shrubby, declining, and divided into a few slender branches, all its parts are penetrated with intense bitterness; the seeds are employed; one of them triturated in water is taken to counteract the poison. It would appear, that the genus of the shrub is doubtful; it has, however, evidently some affinity to the *geoffræa*.

CCXCI.

PORTALAYKAIANTAGEREI போர்தலைகாயாகெரை (Tam.) *Peela bhungara* پیلا بھنگرہ (Duk.) *Keshooriya* (Beng.) *Bhungareh asfur* بھنگرہ اسفر (Pers.) *Patsoopoopulataghelinjerakoo* (Tel.) *Pīta-bhringi* पीतभृंगि (Sans.) *Marygold-like Verbesina.*

VERBESINA CALENDULACEA (Lin.).

Cl. and Ord. Syngenesia Superflua. Nat. Ord. Corymbiferæ (Juss.) *Ringelblumenartige Verbesini* (Nom. Triv. Willd.).

The leaves, seeds, yellow flowers, in a word, the whole of this low-growing plant, which is pleasant and somewhat aromatic to the taste, is used in medicines; it is considered as deobstruent, and is prescribed in decoction, in the quantity of half a teacupful twice daily. It is the *pee-cajoni* of Rheede (Hort. Mal. x. p. 83. t. 42.), and the *ran-wankeeki-rindiya* of the Cyngalese. It has "an herbaceous stem, a foot high, and nearly erect; leaves quite entire, opposite, lanceolate, bluntish, with yellow flowers, terminating solitary, and on a very long peduncle." It is a native of China as well as India.

Three species of verbesina grow in Ceylon; five have a place in the Hortus Bengalensis. بھرنگ راج biringhie raj is the Hindoostanie name of the species verbesina prostrata.

CCXCII.

POSTAKAI போஸ்தகாய (Tam.) *Post* پوست (Duk.) *Capsules of the Poppy Plant.*

PAPAVER SOMNIFERUM (Lin.).

This is the dried capsule of the poppy, with which the native practitioners of India make an infusion, administered as a restrainer in bowel complaints.

CCXCIII.

POTTLE OOPPOO TRAVAGUM (Tam.) *Nitrous Acid.*

In addition to what I have said of this medicine at pages 2 and 580 of Vol. I., I may here add, with reference to Dr. Scot's *nitrous acid bath*, that that application of the mineral acid seems to gain ground amongst many of the medical men of England, some of whom think that in certain hepatic derangements it answers the purpose of mercury: it is believed to keep the bowels open, and so far it may give relief to internal congestion; but I should be sorry to trust to it in any acute case of hepatitis in India, and still must caution against its influence on the nervous system, (in peculiar habits perhaps.) There is another

remark, which I must in justice to Dr. Scot's discovery make, and that is, that the two individuals I alluded to, as suffering from the use of the bath, kept their legs in it for nearly an hour each time; this may be too long. Indeed, I find that a quarter of an hour or twenty minutes is usually recommended, and to be continued for some days together. The nitro-muriatic bath is made by first pouring four ounces of water into a glass vessel, to this is to be slowly added two ounces of the muriatic acid, and the same quantity of nitric acid; one ounce of this mixture will be enough for a gallon of water, or generally speaking, it may be made of the strength of weak vinegar. The water should be tepid, and the proper heat may be renewed daily, by taking away a gallon of the bath mixture, and adding a gallon of water sufficiently warm to give a proper temperature to the whole, adding of course at the same time a proportion of the mixture to make up for what has been removed. The best form of a bath for the feet and legs is a long narrow one, in which three gallons of the mixture will be enough to reach nearly up to the patient's knees.

CCXCIV.

PUCHANAVIE பசனாவி (Tam.) *Butchnāk* بچناگ (Duk.) *Beesh* بیش (Pers.) *Agel gheea* (Arab.) *Vatsanabie* (Tel.) *Nābhi* नाभि (Sans.) *Poison Root.*

This root somewhat resembles that of the sweet-scented flag, but is very different in its absolute quality, being reckoned of a very poisonous nature, par-

ticularly when fresh, in which state, or nearly so, the native druggists contrive to preserve it by means of oil. There is a variety of this root found in the bazars, which is dark-coloured, and therefore called in Tamool *karoo-navie*. It is a most powerful poison: it is also sometimes named ven-navie.

CCXCV.

PUNDAROO, also BUNDAROO (Tel.) *Kala buchnak* كالابچناک (Duk.)

CINCHONA EXCELSA (Roxb.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ.

Pundāroo is the Tellinghoo name of a tree, a native of the Circar mountains, having a straight trunk of considerable thickness, with opposite, oblong, petioled *leaves*, and *flowers* fasciled, small, and greenish-white. "The inner coat of the bark," Roxburgh tells us, "possesses the bitterness and astringency of the Peruvian bark; the bitter, however, on chewing, is not easily perceived, but is more lasting." The bark is used by the tanners, and is also a medicine in use amongst the Hindoos, in cases requiring astringents (See Flora Indica, vol. ii. p. 149.). This is the only species of Cinchona noticed by Pennant in his Flora Indica; and it is a curious fact that Humboldt tells us that hitherto no species of Cinchona has been discovered in the equinoctial part of New Spain. See his Political Essay on the Kingdom of New Spain, vol. ii. p. 401.

CCXCVI.

PUT-SAI, or PE-TSI (Chinese.) *Water-Chesnut.*

SCIRPUS TUBEROSUS (Roxb.).

Cl. and Ord. Triandria Monogynia. Nat. Ord. Calamariæ.

Put-sāi is the Chinese name of a plant transmitted some years ago from Canton to Calcutta, where it now thrives in the botanical garden, flowering about the close of the rains: it has a "fibrous *root*, with stoloniferous shoots, and round turnip-shaped tubers; *culms* erect, naked; *leaves* none; *seed* obcordate, surrounded with bristles." Abbé Grosier gives a particular account of the economical uses of the tuberous roots of the plant: the nut is in high estimation either for the pot or as a medicine. See Flora Indica, (vol. i. p. 213.)

CCXCVII.

PULEE (Javan.) *Citron-leaved Tabernæmontana.*

TABERNÆMONTANA CITRIFOLIA.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ.

At Batavia the bark of this tree is considered to have tonic virtues given in fevers: in Java it is believed to be anthelmintic. The tree "rises to the height of fifteen or sixteen feet; the bark of the trunk is of a smooth-grey colour, and abounds in

milky juice, which has obtained for the tree the name of *bois laiteux*, from the French; the *leaves* are opposite, ovate; *flowers* lateral, glomerate-umbelled, of a bright-yellow colour and pleasant smell; seeds brown, lodged in a soft orange pulp." The tree is a native of America as well as Batavia and Java. The genus is thus described by Willdenow, Spec. Plant. vol. i. p. 1244. "Contorta; *folliculi* 2, horizontales; *sem.* pulpæ immersa."

Three species grow in Jamaica, and five in Ceylon, but one of which, the *dichotoma* (Roxb.), appears to be indigenous in that island: it also appears to be a native of Ceylon and Malabar. The reader may find the plant fully described, and somewhat differently from the above, in the Flora Indica MSS., a description I saw too late to enable me to avail myself of the master-hand of Roxburgh here.

CCXCVIII.

PUPPALI PULLUM (Tam.) *Papayā* پپیا (Hind.) *Papaya marum* (Rheede, Mal. i. t. 15.) *Amba Hindi* عنبه هندي (Arab.) *Pæpol* (Cyng.) *Common Papāi* or *Papaw*.

CARICA PAPAYA (Willd.).

Cl. and Ord. Polygamia Tricœcia.

The milky juice* of the fruit, when unripe, is supposed by the natives of the isle of France to possess powerful anthelmintic properties, but I perceive by

* This juice was ascertained, by Sir H. Davy, to abound in albumen. (Elements of Agricultural Chemistry, p. 82.)

the Hortus Jamaicensis (vol. ii. p. 37.), that in Jamaica it is reckoned as most injurious to the intestines: the same fruit, ripe, is excellent and wholesome, and will be noticed more fully in another part of this work. The tree "rises to the height of sixteen or twenty feet, with a thick, soft, herbaceous stem, and naked till within two or three feet of the top; the very large *leaves* come out on each side of the stem; the *flowers* of the male are produced from between the leaves on the upper part of the plant on every side, are pure white, and have a pleasant odour: those of the female also come out between the leaves, but have much shorter peduncles; they are large and bell-shaped, composed of six petals, which are commonly yellow, but those of the pyramidal sort are purple; the fruit, which is of varying forms, is about the size of a small melon"* (Miller). The tree is a native of both Indies. There is a male, female, and hermaphrodite plant, distinguished in Ceylon by the names *mal*, *bada*, and *walu*. The tree is common in Cochin-China, and there called *cay-du-du* (Flor. Coch. Chin. vol. ii. p. 628.). The species *prosoposa* grows in Jamaica, and may be found described in the Hortus Jamaicensis, vol. ii. p. 38.

Dr. Roxburgh at one time had a doubt whether the female trees would bear without the male being near; from some curious information given him by Major Wynch, he ascertained that the female tree would not yield ripe fruit if a male tree was not close to it. Flora Indica (MSS.).

* The small seeds it contains, Horsfield informs us, the Javanese consider as anthelmintic.

CCXCIX.

PURPADAGUM பூர்பாடகம் (Tam.) *Purpatakum* (Tel.) *Parpata* पर्पट (Sans.) *Umbelled Pharnaceum.*

PHARNACEUM CERVIANA? (Lin.).

Cl. and Ord. Pentandria Trigynia. Nat. Ord. Caryophyllei. *Doldenblutiges Pharnaceum* (Nom. Triv. Willd.).

The tender shoots and flowers of this low-growing annual plant are prescribed in infusion to the quantity of half a tea-cupful twice daily in fever cases requiring mild diaphoretics, and the same qualities appear to be ascribed to it in the (Hort. Mal. p. 10. p. 60.) It is a low-growing plant; but seems hitherto to have been but imperfectly described. Of the genus, Willdenow says, "*Cal.* 5-phyllus; *cor.* 0; *caps.* 3-locularis, polysperma." Gærtner informs us, that our species differs but little from the species *mollugo* *; it has a thin-ovate capsule, with eight or ten small round seeds in each cell, and is a native of Spain. I perceive by Moon's Catalogue of Ceylon Plants, that the *pharnaceum triflora* has got the Cyngalese name of *patpadagan;* a name so near the Tamool appellation of our article, that I am inclined to think they are the same plant, and that it is therefore doubtful whether phar. triflora may not be the more correct. Three species of pharnaceum grow in Ceylon: two are in the Hortus Bengalensis. I observe in the Flora Indica (MSS.), that Roxburgh describes at length the pharnaceum pentagynum, a common pot-herb in Upper India, and called in Bengalese doosera-sag.

* Which is the *co-dang* of the Cochin-Chinese.

CCC.

PUTCHWEY.

This is the name of a kind of liquor much relished amongst the Rajmhal mountains, prepared with dried grain, and rendered more intoxicating by an admixture of a small grain called *backhun ;* and which is, I believe, the dokhn of the Arabians (pánicum* Italicum). (Hamilton's MSS.)

CCCI.

QUPAS, or UPAS (Malay). *Poison.*

Upas is a common Malay name for any mortal poison, such as *upas antiar*, the poison of the *antiaris toxicaria ; upas tshettik*, that of the *cerbera oppositifolia*. The first-mentioned plant is one of the largest trees of the Indian Archipelago, and is common all over it ; the poison is a milky juice, of the colour of dirty cream, which flows from the outer bark on its being wounded, and which, if inserted into a buffalo by means of a dart, will destroy it in little more than two hours. The cerbera oppositifolia, which yields the *upas tshettik*, is a large creeping shrub confined to Java alone ; it is from the bark of its root that the poison is got, and which is infinitely more powerful than the first mentioned ; so much so, that it destroys animal life in a very short time (see Crawfurd's History of the Indian Archipelago, also Horsfield's account of the *upas poison*,

* Made, it must be presumed, into a sort of malt : it is a very delicate and wholesome grain.

in the Transactions of the Batavian Society, vol. vii.). These two poisons have both been examined by Pelletier, who discovered, that the active ingredient of the *upas tshettik* appeared to be strychnia, united with igasuric acid, and two colouring matters; and that the *upas antiar* is composed of a peculiar elastic resin, a gummy principle, and a bitter ingredient, concentrating in itself all the noxious qualities of the poison (See Ann. de Chim. et de Phys., *Mai*, 1824.).

Orfila informs us, in his work on Poisons (vol. ii. part i. p. 308.), that the first, *upas tieuté* (tshettik), which was brought to France from Java, was by Leshenault, and that it was scientifically examined by Magendie and Delille in 1809. Eight drops of a solution of the upas, injected into the jugular vein of a horse, killed him in three minutes, acting, apparently, chiefly on the spinal marrow. The poison of the upas antiar, injected into a vein in a dog's neck killed him in five minutes; he at first cried vehemently, by Orfila's account, but did not vomit. Those poisons are noticed here in the hope that further experiments may be made with them, and that in these times of curious and interesting discoveries they may be even turned to some useful account in the practice of medicine.

CCCII.

RANDU BASIN (Jav.).

This is the Javanese name of a plant, which, Dr. Horsfield says, belongs to a *doubtful* genus; I give it a place here that it may become an object of fur-

ther inquiry, there is no doubt but that it contains a large portion of aromatic oil. The *tung-gulung* is another Javanese plant which contains an aromatic oil, which might be a useful substitute for oil of turpentine; it is the amyris protium (Lin.), the protium Javanicum of Burm. (Indic. 88.), and the tingulong of Rumph. (Amb. vii. p. 54. t. 23.).

CCCIII.

RAJRITE (Hind.) *Justah bhasma* (Sans.).

This is a preparation of zinc which Hamilton found in Berar, and which was there prescribed in violent gonorrhœa, accompanied with discharge of blood (MSS.).

CCCIV.

RASSUM ரஸம் (Tam. and Tel.) *Abuc* ابق (Arab.) *Rassā* (Malay). *Sūta* सूत (Sans.) *Mercury. Hydrargyrum.*

The preparations of mercury found in use amongst the Tamool practitioners give us but a poor opinion of their knowledge of chemistry. Their pharmaceutical operations are crude and unscientific; and so little do they appear to be aware of the effects of *attraction* and *new combination*, that articles, the most opposite and heterogeneous in their nature, are added at random. Yet, after all, however much we may be inclined to smile at some of their strange mixtures, it must be confessed that the characterizing principles are generally correct, and that, every thing

considered, there is, in the present state of knowledge amongst the *Vytians* and *Hakeems*, more to call forth our wonder than excite our contempt. I shall, therefore, without further comment, lay before the reader the prescribed rules for making several of the preparations of mercury, employed by the Tamool doctors (translated literally from their works on Pharmacy and the Materia Medica); by which it will be seen how far such compositions may be trusted to, in situations where the nicer chemical productions of Europe cannot be obtained. *

* The Hindoos reckon mercury one of their most powerful medicines, but are very apt, not always intentionally, to induce by its use most frightful salivations; I say frightful, for, however desirable it may be that the mouth should be touched before we can be certain of much lasting good having been done, few things are more distressing than severe ptyalism. The more mercury purges the more slowly will it be found to get into the habit: different cathartics are evidently best suited for particular purposes. Aloes appears, while in the stomach, to be almost a tonic, and to exert little or no aperient quality till it reaches the rectum. Castor-oil, if good, evacuates the intestinal canal with less irritation than any other medicine. Jalap, like senna, would seem to act more on the colon, griping and effectually emptying the large intestines, while it at the same time, by a singular kind of revulsion, just before it operates, often sickens the stomach, and throws the patient into a salutary perspiration.* Mercury (calomel), given as a purge, performs its office evidently by stimulating the mouth of the *ductus communis choledocus*, so causing it to discharge a greater than usual quantity of bile, which bile, being more than is required for the process of digestion, must, necessarily, act as a purge. I consider, however, calomel given in this way as merely an evacuant, nor do I believe its use, simply as such, can ever produce any healthy change in the nature of the secretions or fluids of the human body, either as to colour or consistence; that this good end should be accomplished, the metal, in whatever shape it is given, must have exerted its influence on the general frame as an alterative.

* A peculiarity in this medicine, which has not, perhaps, been sufficiently appreciated; indicative at once of a purgative and diaphoretic quality.

1.

Rassapuspum ரஸபுஷ்பம் (Tam.).

This is a sort of muriate of mercury, in great repute amongst the Tamools, and which appears to be administered by them in larger doses than any of the other preparations of this metal. The following is taken from "*Aghastier Vȳtiah Anyouroo:*" "Twelve pagodas weight of sulphur is to be put into an earthen pot, and fused over a slow, but strong, fire: when in a state of fusion, eighty pagodas weight of quick-silver must be added to it, and kept gently stirred till the whole is reduced to a black powder: another pot is then to be taken, and filled half full of small pieces of brick, over which is to be laid one measure of common salt: on the top of this salt is to be put the black powder just mentioned; covering the whole with another earthen vessel; the part where the mouths of the two vessels meet is to be well coated over with soft clay, and afterwards bound round with five plies of coarse cloth; the pots, thus joined, are then to be placed on a strong fire, and there to be kept for twelve hours; after which time they are to be taken off and left to cool, when the rassapuspum will be found collected in the uppermost."

Mode of administering the rassapuspum: "Four pagodas weight of womum (seed of the sison ammi) must be roasted, and reduced to a powder: four pagodas weight of Palmyra jaggary is to be added to this, and the whole to be well ground: eight fanams weight of the rassapuspum is then to be mixed with

the other two ingredients; when all are to be rubbed together for a considerable time, and afterwards made into sixteen boluses: one of which is to be taken, morning and evening, for eight days; at the end of which period the mouth will generally be found to be much affected. The rassapuspum is a most useful and efficacious remedy in eighteen different kinds of contractions of the sinews, the same number of kirandies (venereal affections), twenty sorts of scurfy eruptions, that dangerous species of ulcer which makes its appearance over, or near, the back-bone, that dreadful boil which assumes the the appearance of an ant-hill, in spreading or corroding sores, swellings on the neck (scrophulous affections), and leprosies."

2.

Rassacarpoorum ரசகற்பூரம் (Tam.).

This also is a sort of muriate of mercury. The following method of preparing it is taken from a work entitled the "*Poorna Soostrum,*" which is an abridgment of a voluminous work, which treats of Religious Ceremonies and the Materia Medica, &c. &c.: "Sixteen pagodas weight of sulphur is to be fused in an earthen pot; after which, eighty pagodas weight of quick-silver is to be added to it, and the whole to be kept stirred until reduced to a black powder. Another earthen vessel is then to be taken, and filled half full of small pieces of brick, over which is to be laid half a measure of common salt: upon the top of this salt is to be put the black powder, and the whole to be covered with another

empty earthen pot: the part where the mouths of the two pots meet is now to be well coated with soft clay, and bound round with seven plies of coarse cloth. The two vessels, thus joined, with their contents, are to be kept on a strong fire for twelve hours, and then the pots are to be taken off, and left to cool. When perfectly cool, the uppermost is to be carefully removed from the other; when in it (the uppermost) will be found a whitish saline substance, in a lump. A sort of phial, called cooppie, is then to be well coated over, in every part, with clay; which phial is to be half filled with the white saline substance just mentioned. An open, hollow, earthen vessel is now to be taken, and, after being filled quarter-full of river sand, is to be placed upon a strong fire; into this sand, thus heated, is to be set the bottom of the cooppie; at the same time heaping up fresh sand to near its mouth. In this situation, the white saline substance is to be kept purifying (subliming), from six in the morning until twelve in the middle of the day; at which time the fire is to be extinguished, and the whole left to cool, until six in the evening, then again, the fire is to be lighted and kept burning until twelve o'clock at night; and in this manner is the process to be continued for three days successively; after which period the rassacarpoorum will be found in the upper part of the cooppie."

Mode of administering the rassacarpoorum: "One cash (copper) weight of Palmyra jaggary, and a quarter of a silver fanam weight of the rassacarpoorum are to be well mixed together, and made into a bolus; one half of which is to be taken in the morning, and the other half in the evening, till the mouth is properly affected. In stronger habits double this dose

may be given. When the rassacarpoorum is administered in nervous or convulsive habits, or when the stomach is weak, five grains of long pepper (tipilie) must be added to the bolus. Rassacarpoorum is a medicine of great efficacy in all the eighteen kinds of leprosy, in twenty sorts of scurvy eruptions, in contractions of the sinews, in the venereal disease, in the dangerous ulcer which comes over the backbone, in spreading ulcers, in deep-seated sores, in fistulas, in infectious itches, and in a certain species of hypochondriasis."

3.

Shādilingum சாதிலிங்கம் (Tam.).

This is a sort of factitious cinnabar, and is used by the native Indians in fumigations. The following method of preparing it is taken from the "Poorna Soostrum:" "Twelve pagodas weight of sulphur is to be put into an earthen pot, and fused over a slow fire; when in a state of fusion, eighty pagodas weight of rassum must be added to it, and the whole kept gently stirred until it is reduced to a black powder. Twelve pagodas weight more of sulphur, and four pagodas weight of vellie eeum (pewter, literally silver lead), cut into small pieces, are to be added to the black powder, and the whole to be mixed with the same quantity of pottle ooppoo (saltpetre). All of these are to be put into a phial, called cooppie, which must be sufficiently large to contain the medicines in the half of it. This vessel is then to be coated over with clay, in the most perfect manner. An oven is now to be made in the

ground, over the mouth of which is to be put a broad hollow earthen pot, and in this pot is to be placed the cooppie (containing the medicines), which is to be next covered over with sand up to its neck. The fire is then to be put into the oven, and kept burning for twelve hours; after which the cooppie is to be taken off, and kept till it is cool, when it may be broken, and in the neck of it will be found the shadilingum, in a lump."

Mode of fumigating with the shadilingum: "Eight pagodas weight of yercum vayr puttay (the bark of the root of the asclepias gigantea), four pagodas weight of the charcoal of the yercum wood, four pagodas weight of shadilingum, and one pagoda weight of pepper, are all to be ground together, with the juice of the leaves of the paratie cheddie (gossypium herbaceum), and, when well rubbed, to be formed into twelve cakes and dried. The fumes of one of these cakes, while burning, to be inhaled daily, through a smoking pipe, either all at once, or at two different periods in the twenty-four hours. Fumigation of this sort may be continued for five or six days, according to circumstances; and is efficacious in the two disorders called by the Tamools *kannosie* and *kanna poottoo* (cancerous affections), in venereal ulcers of the throat and nose, and in a disease attended with a singular pricking pain in the scull."

4.

Shavirum சவிரம் (Tam.).

This strange compound is administered by the Tamools in very small quantities; and well it ought

to be, as it is evidently a harsh, uncertain, and dangerous preparation. The following process for making it is taken from the "*Poorna Soostrum:*" "First, make rassapuspum, of the strength that will be formed by using the proportions of sixteen pagodas weight of sulphur, eighty pagodas weight of quick-silver, and half a measure of common salt. Then, to eighty pagodas weight of this rassapuspum, add the same quantity of roasted salt: to these, again, are to be added the following substances; forty pagodas weight of roasted toorushoo (sulphate of copper), twenty pagodas weight of paddicarum (alum), twenty pagodas weight of pottle ooppoo (nitre), twenty pagodas weight of poonheer (a sort of alkaline earth), ten pagodas weight of anna baydie (sulphas ferri), and five pagodas weight of navacharum (sal ammoniac). All these to be well rubbed together till formed into an uniform powder, which is to be put into a cooppie sufficiently large to hold the whole in one half of it; after which, it is to be well coated round with clay, and set over an oven like the shadilingum, where it is to be kept for thirty-six hours, taking care that the fire, though slow, is strong; the cooppie is then to be broken, and in the mouth of it will be found the shavirum, in a lump."

Mode of administering the shavirum: "The weight of a grain of paddy* of shavirum may be given, for three days together, morning and evening, mixed with a little of the juice of green ginger, or about half a pagoda weight of common jaggary. This quantity, taken for the period mentioned, will

* A grain of paddy, which is rice in the husk, is the smallest weight in use amongst the Tamools.

affect the mouth; and is efficacious in thirteen kinds of convulsion, in disorders attended with much phlegm, in venereal affections, in some kinds of asthma, and in scrophulous complaints."

5.

Rassa Sindoorum, or *Cenduram* ரசசிந்தூரம் (Tam.).

This substance is used by the native practitioners for nearly the same purposes that we employ red precipitate, viz. as an escharotic, and for cleaning foul ulcers. The *Vytians* prepare it in the following manner: "Ten pagodas weight of tuttanāgum (zinc) is first to be melted in an earthen pot, in a sand bath; after which, ten pagodas weight of rassum (quick-silver) must be added to it. Two and a half pagodas weight of toorushoo (blue vitriol) and twenty pagodas weight of nitre, are then to be reduced to fine powder; which fine powder is to be sprinkled over the metals, at the same time stirring the whole with the root of the plant called sirrookeeray (amaranthis campestris); this having been done, the heat of the sand-bath is to be increased, and the process continued till such time as the rassa sindoorum is found."

CCCV.

RUKAFE رقاقة (Arab.)

Rukafe is the Arabic name of the root of an African plant, mentioned by Forskal in his "Materia

Medica Kaherina" (p. 152.), and which is considered, when in powder, as a valuable sternutatory. Another plant, of a somewhat similar name, *ærk. djenah* عرق جناح, the Arab doctors prescribe in cases of colic. It is much to be regretted that the botanical names of many of the medicines mentioned by that author have not yet been ascertained.

CCCVI.

SAMUTRA CHEDDIE சமுத்திரசோழி (Tam.) *Samutra patsa* (Tel.) *Maha-dumuda* (Cyng.) *Samudra patra* समुद्रपत्र (Sans.) *Broad-leaved Bind-weed.*

CONVOLVULUS SPECIOSUS (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Convolvuli (Juss.) *Prächtige Winde* (Nom. Triv. Willd.).

Samutra cheddie is the Tamool name of a most beautiful creeping plant, common in the Coromandel woods, whose broad, soft, heart-shaped leaves (the under part of which has the appearance of white velvet), the natives use in preparing emollient poultices; they also consider them to possess virtues in cutaneous complaints, rubbed on the parts affected; the stem is arboreous, at first erect, then twining.

No fewer than thirty species of convolvulus are described by Dr. Roxburgh in his Flora Indica (MSS.).

CCCVII.

SAMUTRA PULLUM சமுத்திரப்பழம் (Tam.) *Chawntrie ka pull* چونتري کا پهل (Duk.) *Sumatra pundoo* (Tel.) *Sea-Fruit.*

The *Sumatra pullum*, which literally signifies *sea-fruit*, as it appears in the Indian bazars, is about the size of a large lemon, but is commonly found cut into four sections, which are of a very dry texture and bitter taste. In cases of *ozæna*, and other affections of the nose, the powder is recommended to be snuffed up the nostrils. It is said to be brought to India from the Eastern islands.

CCCVIII.

SANGKHAPHULI. *Sangkhi* (Sans.) *Small-flowered Periwinkle.*

VINCA PARVIFLORA (Retz.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Contortæ.

This is common on the Coromandel coast, and is the only annual of the genus: it rises to the height of about five or six inches, with a quadrangular stem. It is the *cupa-veela* of Rheede (Hort. Mal. ix. 61. t. 33.), and has leaves lanceolate-acute; flowers at the sides, and often at the top in pairs, peduncled (Lin. Suppl.), and a corolla very much resembling that of the lithospermum officinale, and of a pale yellowish hue.

Dr. F. Hamilton informs us (MSS.) that the *sangkhi* is a medicinal plant in Upper India, and that a decoction of the dried plant boiled in oil is rubbed on the loins in cases of lumbago.

CCCIX.

SAPATOO CHEDDIE சபாதுசேடி (Tam.) *Scheru-pariti* (Hort. Mal. p. 25. fig. 17.) *Waribun* (Jav.) *Houng kan* (Cochin. Chin.) *Jasoon* جاسون (Duk.) *Kambang sapatos* (Malay.) *Dasanie* (Tel.) *Japā* जपा (Sans.) *Shoe-Flower* Plant*, or *China Rose*.

Hibiscus Rosa Sinensis (Lin.).

We are told by Rheede, in the Hortus Malabaricus (ii. 25. t. 15.), that the root of this plant, triturated with oil, is considered as a medicine of value in menorrhagia. Of the use of the flowers in the arts, notice will be taken in another part of this work (Part III.): the natives prepare with them a kind of *achar* or pickle.

The plant is the *flos festalis* of Rumph. (Amb. iv. p. 24. t. 8.), and grows in India to the size of a small tree, with *leaves* ovate, acuminate, serrate; *stem* arboreous and erect; *leaves* cordated at the base, serrated, and five-nerved; *flowers* axillary, solitary, peduncled, large, and of a deep scarlet. There are several varieties of the hibiscus rosa Chinensis. The *leaves* are considered by the Cochin-Chinese as emollient, resolvent, and anodyne, and useful in strangury

* So called on account of the leaves being usually employed for blacking shoes.

and dysuria, at the same time gently opening the bowels: the flowers they use for giving a red tinge to certain spirituous liquors.

Twenty-seven species of hibiscus are described by Dr. Roxburgh in his Flora Indica (MSS.).

CCCX.

SARAY PARAPOO சாயப்பூ (Tam.) *Saray puppoo* (Tel.) *Priālu* प्रियालु (Sans.)

All I can say of this is, that it is a sort of small pulse, brought from the woods of Malabar, which the natives bruise and make into an electuary, which they consider as tonic.

CCCXI.

SAVARNAKSHIRA (Hind.) *Swarnakshīra* स्वर्णक्षीर (Sans.) *Cat's Cleome.*

CLEOME FELINA (Kœn.).

Cl. and Ord. Tetradynamia Siliquosa. Nat. Ord. Putamineæ. *Katzen-Cleome* (Nom. Triv. Willd.).

Dr. F. Hamilton had this plant given him as medicinal in the upper provinces of India, where it appears to grow, as well as on Ceylon. The fresh and dry plant are equally used, pounded, together with a little milk and sugar: it is prescribed in epistaxis (*ractapiti*). The plant appears to have been first noticed on Ceylon by Kœnig: Moon, however, gives us no Cynga-

lese name for it. It is described by Willdenow Spec. Plant. (vol. iii. p. 1. p. 567.) as being small and *strigose*, with wedge-shaped sub-retuse leaves, and a small angular-formed red corolla.

CCCXII.

SECACUL.

I find this given in Virey's "Histoire Naturelle de Medicamens peu connus" (p. 321.), as the Arabic name of a root common amongst the Arabians, and considered by them as aromatic and stomachic: he supposes it may be a species of *sium*, perhaps the sium siarum (Lin.).

CCCXIII.

SEEMIE AGHATEE சீமையகத்தி, also *Wandu-kolli* (Tam.) *Velatie aghatie* ولايتي اعاتي (Duk.) *Seema avisee*, also *Metta tamara* (Tel.) *Ætora* (Cyng.) *Cassia herpetica* (Rumph. Amb. vii. t. 35, 36.) *Dadmerden* دادمردن (Duk.) *Dadrughna* दद्रुघ्न (Sans.) *Broad-leaved Cassia*, or *Ringworm-Shrub*.

CASSIA ALATA (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ. *Geflugelte Cassie* (Nom. Triv. Willd.).

This plant, which has a thick, yet herbaceous stem, is but short-lived; and would appear to be equally a native of Amboyna, the warmer parts of

America, Ceylon, and India: it rises to the height of six or eight feet; has leaves about five inches long, and one and a half broad; *racemes* terminating, spiked, and many-flowered; *flowers* large, yellow. Swartz has given a description of the plant, which Willdenow appears not to have adopted, and I do not wonder, for certainly the leaves are not two feet long. The juice of the leaves, mixed with lime-juice, is considered as a sovereign remedy for ring-worm; the fresh leaves, simply bruised, and rubbed upon the eruption, are also found in many instances to remove it. Dr. Wright tells us, in his Medicinal Plants of Jamaica, that a poultice made of the flowers, the natives of that island use in cases of ringworms. Roxburgh, in his Flora Indica (MSS.), gives an admirable description of the cassia alata, which I saw too late to avail myself of here: he observes that the Hindoo doctors say it cures all poisonous bites, buboes, and other venereal affections, and strengthens the body.

CCCXIV.

SEEMIE SHEVADIE சீமைசெவதை (Tam.)
Seemie Tĕgădă (Tel.) *Kumbha* कुम्भ (Sans.)

This is a root of a brownish colour outside, and white within: it is slightly bitter, and is considered as gently aperient and stomachic. Whence it comes I have not been able to ascertain: from its Tamool appellation, we must conclude, it is *not* a product of India, but probably of China.

CCCXV.

SEERA SHENGALANEER (Tam.) *Gherutti kamma* (Tel.) *Sahadevī* सहदेवी (Sans.) *Ash-coloured Flea-bane.*

CONYZA CINEREA (Lin.).

Cl. and Ord. Syngenesia Superflua. Nat. Ord. Compositæ Discoideæ. *Graue Durrwurz* (Nom. Triv. Willd.).

This is an annual, having oblong leaves, flowers panicled, and corollas purple, cylindrical, and twice the length of the calyx. The plant appears to be the *olus scrophinum* of Rumph. (Amb. vi. t. 14. f. 1.) It has got another Tamool name *neidsedtie*, and is quite common on the Coromandel coast.

The whole of this low-growing plant, with its small, round, downy, tasteless flowers, is used in medicine by the Hindoos, in decoction, to promote perspiration in febrile affections.

The plant is the *heen monara kudimbiya* of the Cyngalese, and may be found noticed in Burm. (Zeyl. t. 96. f. 1.). It has no place in the Hortus Bengalensis, where, however, I find thirteen other species, all Indian plants, except the c. *repanda*, a native of Pegu. Five species grow in Cochin-China, where the *conyza odorata* is considered as a stomachic. But three species grow in Ceylon. The species *arborescens* is a native of Jamaica, and is there considered as a medicinal plant. Piso informs us, that the bruised *leaves* were useful in inflammations of the eyes; and that they, together with the pappous *seed*, owing to their aromatic nature, were

employed in preparing baths (Hort. Jamaic. vol. i. p. 299.).

I find ten species of conyza described in Dr. Roxburgh's Flora Indica (Manuscript Copy.).

CCCXVI.

SENDOORKUM சாதகக்கடம் (Tam.) *Koosum* كوسم (Hind.) *Koosumba chettoo* (Tel.) *Kasumbu* (Mal.) *Cossumba* (Can.) عصفر also جريصس (Arab.) *Kajeerah* (Beng.) قرطم (Egypt.) *Cusumbha* कुसुंभ (Sans.) also *Kamalottara* कमलोत्तर (Sans.) *Safflower* or *Bastard Saffron.*

CARTHAMUS TINCTORIUS (Willd.).

Cl. and Ord. Syngenesia Æqualis. Nat. Ord. Compositæ. *Gemeiner Saflor* (Nom. Triv. Willd.).

A fixed oil is prepared with this plant, which the *Vytians* use as an external application in rheumatic pains, and paralytic affections, also for bad ulcers; the small seeds are reckoned amongst their laxative medicines, for which purpose, I see they are also used in Jamaica (the kernels beat into an emulsion with honeyed water). Barham (p. 163.), tells us, that a drachm of the dried flowers taken, cures the jaundice (Hort. Jamaic. vol. i. p. 72.). I find the plant is in the Hortus Bengalensis, but it does not appear to grow on Ceylon. Our species is a native of Japan, and is there called *benino fanna* (Flor. Japon. p. 307.). It is also a native of Cochin-China and China; in the first-mentioned country it is termed *cay rum.* Loureiro tells us, that the seeds are considered as purgative, or *eccoprotic* resolvent,

and emenagogue; and that the flowers are used for dyeing a rose colour, also purple and violet (Flor. Cochin-Chin.). The plant is an annual, rising with a stiff, ligneous stalk, to the height of about three feet, having *leaves* ovate, entire, serrate, aculeate; the *flowers* grow single at the extremity of each branch, are of a beautiful saffron colour, and will be further noticed, as well as the oil, in another part of this work. In South America, as well as in Jamaica, the flowers are much used for colouring broths and ragouts. The carthamus tinctorius is indigenous to the Indian islands; but it is, by Mr. Crawfurd's account, most successfully cultivated as a dye in Bali, and grows in great perfection in Macassar and Celebes (Hist. Indian Archipelago, vol. i. p. 461.). It is the cnicus Indicus of Rumph. (Amb. v. t. 59.)

CCCXVII.

SENDRIKKA (Cyng.) *Goolabas* گلاباس (Duk. and Hind.) also *Sanji* (Hind.) *Bahubami* (Sans.) *Marvel of Peru.*

MIRABILIS JALAPA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Nyctagines (Juss.). *Gemeine Jalape* (Nom. Triv. Willd.).

We are told by Dr. Fleming, in his Catalogue of Indian Medicinal Plants (p. 28, 29), that this is not indigenous in India; but that all the varieties are now cultivated in Bengal. The root at one time was supposed to have a considerable purgative quality; but from the reports of Dr. Hunter, and Dr. Shoolbred at Calcutta, it does not appear to be of

much value.* The plant is a native of Ceylon, of Japan, of Cochin-China, of China, as well as Jamaica; on Ceylon four † varieties are noticed. The plant has a round herbaceous *stem*, and a tuberous root, so like that of the convolvulus jalapa, that it is difficult to distinguish them; "the *leaves* are cordate, acute, opposite, and petioled," and the *flowers* terminating close together, erect (Spec. Plant. 252.); outer calyx bell-shaped, spreading cleft entire; inner large and funnel-formed (Loureiro); seed globular, covered with the coriaceous base of the inner calyx (Miller). In speaking of our article, Loureiro says, "Hæc radix non est apta ad medicinam (Flora Cochin-Chin. vol. i. p. 101.). Thunberg on the other hand informs us, that the females of Japan prepare with the powder of the seeds, a kind of white paint for their faces; in that country the mirabilis jalapa is termed *keso*, also *foosen*: it is common at *Satsuma* (Flor. Japon. p. 91.). It was one of the medicinal plants brought to Dr. F. Hamilton, while in Behar; where he was told, that the whole herb, bruised and mixed with a little salt, was applied warm to phlegmons, to bring them to suppuration, MSS.

* It is curious to observe the different reports regarding the same thing, and it is unfortunate when that should be a medicine. Barham, in speaking of the root of the mirabilis jalapa, says, "*It works as well* as the true jalap, but requires to be given in four times the quantity." See his Natural History of Jamaica, p. 62.

† Purple, yellow, white, and variegated.

CCCXVIII.

SHADAMANGIE சடாமாஞ்சி (Tam.) *Jătamansi* جهتامانسي (Duk.) *Sumbel ut teib* سنبل الطيب* (Arab.) *Chehur* (Hind.) *Juttamamsi* (Tel.) *Jatāmānsī* जटामांसी (Sans.) *Jatamansi Valerian*, or *Spikenard.*

Valeriana Jatamansi (Sir W. Jones)?

Cl. and Ord. Triandria Monogynia. Nat. Ord. Aggregatæ.

In the first edition of this work, I gave cyperus stoloniferus (Kœnig), as the scientific name of this plant, on the authority of Rottler, and it may still be a question, whether it is not the right appellation. With the hairy portion of the stem of the plant, immediately above the root (as it appears in the medicine bazars of Lower India), when dried, in conjunction with certain oils, the *Vytians* prepare a fragrant and cooling liniment for the head; they also prescribe it occasionally internally as a purifier † of the blood, and consider it as a valuable perfume. Sir William Jones has expressed an opinion, that the spikenard ointment of the ancients might have been made from the *valeriana jatamansi* ‡ (Asiat. Res. vol. ii. p. 405. also vol. iv. p. 109.; Roxb. ibid. 433.) This notion, however, is strongly combated by some, and doubted by very high authority. Dr. Francis

* A more common Arabic name is اسرورة *usrureh.*

† One pagoda weight, in powder, twice daily.

‡ Mr. Lambert, in his admirable illustration of the genus cinchona, tells us, that the "*valeriana jatamansi* is identical with the spikenard of the ancients."

Hamilton, found the plant growing in Nepaul, whence, he tells us, it is sent to the plains of India. It is also noticed by Kirkpatrick, in his account of that kingdom (p. 182.). The valeriana jatamansi *, we are informed briefly, by Roxburgh, in his Flora Indica (vol. i. p. 166.), has triandrous *flowers*; *leaves* entire, four-fold, the inner radical pair petioled and cordate; *cauline* sessile, lanceolate; *seeds* crowned with a pappus.

Mr. Phillips seems to have no doubt but that lavender (Lavendula) was the nardus, *ναρδος*, of the Greeks; and that the Indian sort, *ναρδαστα χυς*, quasi *nardi spica*, was the spikenard of the ancients (Cultivated Vegetables, vol. i. p. 298.). Where the truth may lie amongst those various opinions, it may be difficult to say; the writers on the Continent seem, however, to have taken, without distrust, the sentiments of Sir W. Jones. Virey observes, in his Histoire Naturelle des Médicamens, p. 207, "*Spica nard Indien*, vrai, valeriana jatamansi; il est utile dans l'Indostan, contre epilepsie, hysterie, et affections convulsives."

Loureiro has no doubt but that his *nardus Indica*, or the *cam-sum-hiam* of the Cochin-Chinese, is the bona fide *nardum Indicum* of the ancients, or in other words, the spikenard, so much vaunted as stomachic, cardiac, &c., and by Bontius as alexitoric (See Flor. Cochin-Chin. vol. i. p. 45.).

* The valeriana Hardwichei; the *chammaha* of the Nepalese, is a medicinal plant amongst that people. (Flor. Ind. vol. ii. p. 167.).

CCCXIX.

SHANGAM COOPPY சாகாகுடிடீ (Tam.) *Sungkoopie* سنڭكوپي (Duk.) *Nalla oopie* (Tel.) also *Pissinghie* (Tel.) *Gambir-laut* (Jav.) *Wæl-boo-rænda* (Cyng.) *Kundalī* कुंडली (Sans.) *Ovate-leaved Smooth Volkameria.*

VOLKAMERIA INERMIS (Lin.)

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ.

The juice of the root, and the leaves of this plant are bitter, and is prescribed by the Hindoo Doctors as an alterative, in scrophulous and venereal affections; dose, a table-spoonful; it is given either pure, or in conjunction with a small quantity of castor-oil. The plant is the *jasminum litoreum* of Rumph. (Amb. v. p. 86. t. 46.), and the *nir-notsjit* of Rheed. (Mal v. p. 97. t. 49.) It grows in most of the jungles of Southern India, and is also a native of Java, Cochin-China, and Ceylon; the Javanese consider it amongst their bitter tonics, and call it *gambir-laut;* the Cochin-Chinese do not seem to rank it amongst their medicines, they name it *sanfu mun.* From the extreme beauty of this shrub, it is often of late years cultivated for hedges in India; it has "*leaves* ovate, quite entire, shining; *petioles*, *peduncles*, and *calyxes* smooth; the *leaves* often grow round the branches in whorls, and are of a fine deep green colour; when slightly bruised, they have a somewhat aromatic smell; the beautiful white *flowers* are on long axillary peduncles." Gærtner made the plant the *clero-*

dendrum inerme ; it is the *bunjoma* of the Bengalese. I find eleven species of volkameria in the Hortus Bengalensis; the *unfortunata* (Roxb.), the بهانت *bhant* of the Bengalese, is a beautiful shrub, and held in high estimation by the Hindoos.

CCCXX.

SHARUNNAY VAYR சாரணவாயர (Tam.) *Nasurjinghi ke jurr* ناسرجنگي کي جر (Duk.) *Ghelijehroo vayroo* (Tel.) *Punarnavī* पुनर्नवी (Sans.) *Root of the One-styled Trianthema.*

Trianthema Monogynia (Roxb.).

Decandria Digynia. Nat. Ord. Succulentæ. *Portlachblattrige Dreyblume* (Nom. Triv. Willd.).

This root, as it appears in the bazars, is of a pale colour, and much wrinkled; to the taste it is a little bitterish and somewhat nauseous; the *Vytians* consider it amongst their Cathartics, and give it in powder, in the quantity of about two tea-spoonsful twice daily, in combination with a small quantity of ginger; when taken fresh it has a somewhat sweetish taste.

The *sharunnay* is "a procumbent plant, not unlike purslane, sending out many trailing branches; the *leaves* which are eat by the natives, are opposite, oval, petioled, obtuse, and one leaf always less than the other; the *flowers*, which are five-stamened and one-styled, come out from the joints, and are of a purple colour; the *seeds* round and black." The plant is a native of the West Indies as well as of India; it is the portulaca curassavica of Herman. (Par. 213. t. 213.). Of this genus three species are in the Hortus Bengalen-

sis. There is a white sort of *sharunnay* (*vullay sharunnay*, Tam.), the root of which is about the size of a small finger, light brown outside and white within; it is aperient, and is mentioned in some of the Tamool sastrums, as useful in hepatitis, asthma, and suppression of the menses. Four pagodas' weight of the bark of the root, made into a decoction, by boiling it in lb. i. of water till lb. ss. remains, will open the bowels; its Tellingoo name is *tella gheliyehroo vayroo*, the Sanscrit one is *swēta punarnavī*.*

CCCXXI.

SHAYNG COTTAY சேங்கொட்டை (Tam.) *Gheru* (Canar.) also *Shayrang cottay* (Tam.) *Belawine* بهلاوين (Duk.) *Belader* بلادر (Arab.) *Nellajiedie* (Tel.) also *Jeedighenzaloo* (Tel.) *Bheela* بهيلا (Hind.) *Bhallātaka* भल्लातक, also *Arushkara* अरुष्कर (Sans.) *Marking nut*, or *Malacca Bean*. SEMECARPUS ANACARDIUM† (Lin.).

Cl. and Ord. Pentandria Trigynia (Polygamia Dicœcia, Roxb. Cor. Pl. t. 12.). *Aechter Acajou* (Nom. Triv. Willd.).

The acrid juice contained in the cells between the laminæ of the shell of this nut is considered as a valuable medicine, by the Hindoos, in scrophulous, venereal, and leprous affections, given in very small doses. An oil is also prepared with the nut, by boiling, which is used, externally, in rheumatism and

* It is the trianthema decandra (Willd.), and in Dukhanie is termed *bees-khupra* بس كهوپرا.

† The anacardium orientale of the Materia Medica.

sprains; it is of a very stimulating nature, so much so, that, undiluted, it acts as a blister.

The nut or seed of the tree is about the size of a small common bean; it rests upon the receptacle, and is heart-shaped, flattened on both sides, smooth, shining, black. The corrosive resinous juice, at first, is of a pale milky colour till matured, when it becomes black. The green fruit*, pounded into a pulp, makes good bird-lime. The fleshy receptacle, which is about the size of the nut itself, is roasted in the ashes and eaten by the natives: Roxburgh, in his Coromandel Plants (vol. i. p. 14.), tells us, that it tastes like roasted apples. The acrid† black juice of the shell is employed, by the Tellingoos, in every sort of venereal complaint, aches, sprains, &c.; it is mixed with the expressed juice of garlic, each an ounce; expressed juice of fresh tamarind tree leaves, cocoa-nut oil, and sugar, of each two ounces; mix and boil them for a few minutes; of this a table-spoonful is given twice daily. The tree is very large, straight, and high; *branches* numerous and spreading; *leaves* about the extremities of the branchlets, alternate, petioled, wedge-formed, and rounded at the apex, from nine to eighteen inches long; receptacle erect, shear-shaped, smooth. Besides being useful as a medicine, the black juice of the shell is employed for marking all sorts of cotton cloths; the colour improved and prevented from running by a mixture of a little quick-lime and water.

Three species of semecarpus are in the Hortus Bengalensis; two grow in Ceylon.

* And, if we mistake not, is one of the ingredients employed in making the target varnish, as noticed by Mr. Colebrooke, in one of the early numbers of the Journal of Science and the Arts.

† This is, if handled incautiously, said to occasion a general eruption over the body, of an herpetic-like appearance.

CCCXXII.

SHAYRAET COOCHIE சாயிரத்துக்குச்சி (Tam.) قصب الزريره (Arab.) *Chirāéta* چرايته (Duk. and Hind.) *Sheelāsuttoo-coielloo* (Tel.) *Kirātaticta*, किरातनिक्त (Sans.) *Chirāyit Gentian*, or *Worm-seed Plant.*

GENTIANA CHIRAYITA (Roxb.).

Cl. and Ord. Pentandria Digynia. Nat. Ord. Gentianæ (Juss.).

What appear in the bazars of Lower India, under this *Tamool* name, are small stalks of a light-grey colour, and very bitter, but pleasant taste; the natives consider them as tonic, stomachic, and febrifuge, and prescribe a decoction or infusion of them, in the quantity of a small tea-cupful, twice daily.

This species of gentian, the excellent Dr. Fleming tells us, is indigenous in the mountains to the Westward of the Ganges; it is an herbaceous plant, having *leaves* stem-clasping, lanceolate, 3-5-nerved; *corol.* rotate, four-cleft, smooth; *stamens* four; *capsule* ovate, bifurcate, as long as the calyx (Roxb. MSS.). It would appear to be much used, in decoction and infusion, by the European practitioners of Bengal, and found efficacious, in combination with the *caranja** nut, in curing intermittent fevers; a tincture of it is also prepared.

* The guilandina bonducella (Lin.), the *kalichi* of the Tamools. See article *Kalichikāi*, in this Chapter.

Dr. F. Hamilton found two plants growing in Nepaul, under the name of *chirayita;* the largest seemed to him to be a *swertia*, and, perhaps, it was that which has been considered by some authors as more properly a *gentiana;* he thought it came nearer, in appearance, to the gentian of the shops than to any other known plant. The smallest of the chirayitas, however, Dr. H.* found most common, and this we believe to be our present article; and, perhaps, that which Kirkpatrick met with indigenous in the same country, and termed by the natives *bickma* (see his Account of Nepaul, p. 182.)

I perceive that an alkali has lately been discovered in the *gentiana lutea*, by M. M. Henry and Caventou; it is of a yellowish hue, is extremely bitter, inodorous, yet aromatic; they have given it the name of *gentianine;* the dose is from two to four grains, given in syrup or alcohol. The leaves and root of the species *g. scandens* (Lour.) is considered, in Cochin-China, as tonic and stomachic; they also, if taken largely, excite nausea and vomiting (Flor. Cochin-Chin. vol. i. p. 171.).

CCCXXIII.

SHEEAKAI சீயக்காய் (Tam.) *Seekékāi* سيكي كاي (Duk.) *Sheeikāiā* (Tel.)

MIMOSA ABSTERGENS?

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Lomentaceæ.

* While in Bahar, Dr. Hamilton had a plant brought to him, called in Hindoostanie *hema*, and which he considered as the gentiana chirayita; it was ordered in worm cases. MSS.

Sheeakai is the name given by the Tamools to a long, flat pod, or legume, containing separate, small, oval, dark-coloured seeds, and which is considered by the native practitioners as a most valuable medicine; in taste it somewhat resembles the soap-nut (*pooindie cottay**), but is more acid, less bitter, and has a singular pungency; its qualities are allowed to be deobstruent and detergent, and, I am inclined to think, expectorant; it is commonly ordered in cases of jaundice and other biliary derangements, and is, besides, used by the Indians like soap-nut, for washing the head. The small leaves of the prickly shrub have a pleasant acidity, and are frequently put into pepper-water, when it is found necessary to keep the bowels open or work off bile. The pod is usually prescribed in electuary, in doses of about the size of a small walnut, every morning for three successive days. The *mimosa saponaria* of Loureiro (Flor. Cochin-Chinensis, vol. ii. p. 653.) is considered as a valuable plant in Cochin-China; it is the cortex saponarius of Rumphius (Amb. l. 6. c. 72. t. 66.), and is an arboreous shrub, with spreading unarmed *branches;* leaves bigeminate and pinnate; and panicle terminating. In speaking of the bark of the mimosa saponaria, which is used as soap, Loureiro says, "Hujus cortex bræbet optimum *saponem*, in foro venalem, ad lintea, capillos, et corpora a sordibus *mundanda;* manibus in aqua fricatus in spumas resolvitur." The Cochin-Chinese call the shrub *cay-chu-blen.*

* See *Pooindie Cottay*, in this Chapter.

CCCXXIV.

SHEMMARUM சேலொட்டம் (Tam.)

See Febrifuge, Swetenian, Vol. I. p. 123.

CCCXXV.

SHEMMOOLLIE ELLEY சேலுப்பொடி இலை (Tam.) *Moolloogorunteh* (Tel.) *Katuka-randu* (Cyng.) *Landul* (Jav.) *Kurantaka* कुरण्टक (Sans.) *Leaf of the Thorny Barleria.*

BARLERIA PRIONITIS.

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Fussangelformige Barlerie* (Nom. Triv. Willd.).

The juice of this leaf, which is slightly bitter and rather pleasant to the taste, is a favourite medicine of the Hindoos of Lower India, in those catarrhal affections of children which are accompanied with fever and much phlegm; it is generally administered in a little honey or sugar and water, in the quantity of two table-spoonfuls twice daily. The plant is also sometimes called in Tamool *vara moollie;* it is the *coletta-veetla* of Rheede (Mal. ix. p. 77. t. 41.). It grows to the height of four feet, "has a round, stiff, herbaceous *stem; leaves* opposite, quite entire, lanceolate-ovate; between the branch and the leaf there is a *spine* with four sharp rays from the same centre; *flowers* sessile, in the axils, large, yellow; the *capsule* has a longish solid point, and bursts

without such internal elastic points as are in the *justicia*" (Lin.). The barleria prionitis is a native of India; this, and two other species, grow in Ceylon. I find but one, the *longiflora*, in the Hortus Bengalensis. The *b. procumbens*, Loureiro met with in China; it is there called *kam-qua-tsu*.

Since writing the above, I have seen, through the kindness of my much-respected friend, Mr. Colebrooke, the complete copy (manuscript) of the Flora Indica, in which the b. prionitis is fully described by Roxburgh; it is the *canta-jathi* of the Bengalese; the *hystrix frutex* (Rumph. Amb. vii. t. 13.), and the moollo-gorinta of the Tellingoos.

CCCXXVI.

SHEENDI CODIE சீந்திகொடி (Tam.) *Cit-amerdoo* (Malealie.) *Goolbayl* گلبيل (Duk.) *Gurcha* (Hind.) *Tippatingay* (Tel.) *Gudūchī* गुडूची, also *Amritā* अमृता (Sans.) *Heart-leaved Moonseed.*

MENISPERMUM CORDIFOLIUM (Russell).

Cl. and Ord. Dicœcia Dodecandria. Nat. Ord. Menisperma (Juss.). *Herzblattriger Mondsame.* (Nom. Triv. Willd.).

The powder of the dried tender shoots of this creeping plant is bitter, and a little nauseous to the taste: the Tamool practitioners prescribe it as an alterative in cases of depraved habit of body, proceeding from visceral obstructions, and jaundice. Dr. Fleming, in his Catalogue of Indian Medicinal Plants (p. 26.), informs us, that the Hindoo physi-

cians consider a decoction of the leaves as a febrifuge, and as a tonic in gout; and I understand that the plant (which, in some districts, is called *somalatā**), is often bruised and put into water, which is drank by the Brahmins at some of their religious ceremonies. The root is a powerful emetic, given to the extent of grs. xv. or ℈i.: to any person bitten by a coverkapell snake this dose is repeated three times, at the interval of twenty minutes betwixt each dose: it is one of the remedies, Mr. Sherwood tells me, that the *Vytians* of the Chittore district trust most to on such occasions. The species *menispermum verrucosum* (Roxb. MS.), which is the *putra waly* of the Javanese, and the *funis fellius* of Rumph. (Amb. v. 82.), was, about twenty-six years ago, introduced into Bengal by Captain Wright. Every part of the plant is extremely bitter, particularly the stalk, which is a remedy much resorted to in Malay countries in cases of intermittent fever, and, according to Captain Wright's account, is as powerful as the Peruvian bark.†

Our present article, the *men. cordifolium*, is the *citamerdu* of Rheede (Mal. vii. p. 39. t. 21.), and the *menispermum glabrum* (Klein in litt.). Of it, Willdenow says, "*Caulis* teres glaber volubilis; *folia* alterna petiolata tripollicaria et ultra orbiculata profunde cordata acuminata cuspidata integerrima glabra septemnervia venosa; *petioli* folio parum breviores; *racemi* axillares subcompositi folio longiores vel longitudine folii."‡

* *Sōmalatā* is the *moon plant*, or *asclepias acida* of Rox.

† See Fleming's Catalogue of Indian Medicinal Plants, pp. 26, 27.

‡ We are informed by Virey, in his excellent "Histoire Naturelle des Medicamens," que "les baies du men. edule (Lamarck), sont sucres, se mangent en Egypt, et on en tire une boisson spiritueuse" (p. 254.).

CCCXXVII.

SHEERUDEK சுரதேகக (Tam.) *Cundbarunghie* كندبارنگي (Duk.) *Varāngī* वरांगी (Sans.)

An infusion or decoction of the leaves and tender stalks and roots of this plant the *Vytians* consider as attenuant and diaphoretic; they are said to be slightly bitter, and not unpleasant to the taste. I have given *sheerudek* a place here that it may perhaps at some future period become an object of further inquiry. Dose of the infusion given by the *Vytians* is half a tea-cupful twice daily.

CCCXXVIII.

SHENCODIE VAYLIE செங்கோடிவேலை (Tam.) *Lal chita* لال چيتة (Duk.) *Yerra cittramoolum* (Tel.) *Lal chitta* (Hind. and Beng.) *Kambang gĕnnee* (Jav.) *Rathnetul* (Cyng.) *Rose-coloured Lead-wort.*

PLUMBAGO ROSEA (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Plumbagines (Juss.). *Rosenrothe Bleywurz* (Nom. Triv. Willd.).

The bruised root of this plant is, in its natural state, acrid and stimulating, but when tempered with a little bland oil it is used as an external application in rheumatic and paralytic affections; it is also pre-

scribed internally in small doses for the same complaints, in combination with some other simple powder. Dr. Horsfield, in his account of the Medicinal Plants of Java, informs us, that the root is used by the Javanese for the purpose of blistering, and that it excites more inflammation than cantharides, but produces less effusion. The *plumbago rosea* would appear to resemble a good deal the *cittramoolum* (plum. Zeylanica) in its natural qualities (see that Article in this Chapter). The *shencoodie vaylie* is the *schetti codiveli* of Rheede (Mal. xii. t. 9.), and the *radix vesicatoria* of Rumph. (Amb. v. p. 453. t. 163.) It is a shrubby plant, generally rising to the height of six feet, with *leaves* petioled, ovate, smooth, somewhat toothletted, and a *stem* with gibbous joints (Spec. Plant. 215.). See also Gærtner and Curt. Magaz.

I perceive but two species of plumbago in the Hortus Bengalensis, our article, and the plumbago Zeylanica; they are also the only two which appear to grow on Ceylon: the species *scandens* is a native of South America, also of Jamaica, where it is supposed to have medicinal properties, drying and restringent, and, by Browne's account, corrosive. See Hort. Jamaicensis, vol. ii. p. 235. Since writing the above I have seen the complete copy (manuscript) of the invaluable Flora Indica of Roxburgh, in which I perceive the plumbago rosea (Lin.) is minutely described. I regret much that the information came to hand too late to enable me to take that advantage of it I otherwise should have done.

CCCXXIX.

SHENGALANEER KALUNG செங்கழுநீர்க் கிழங்கு (Tam.) *Kaloovagudda* (Tel.) *Raktōtpala* रक्तोत्पल (Sans.) *Root of the sweet-smelling Water-lily.*

NYMPHÆA ODORATA (Ait.).

Cl. and Ord. Polyandria Monogynia. Nat. Ord. Succulentæ. *Wohllriechende Seerose* (Nom. Triv. Willd.).

With this fragrant root the Hindoos prepare a kind of cooling liniment for the head. Knowing that the species *odorata* was, properly speaking, an American plant, I should have doubted about referring the root in question to it, but for the high authority of Dr. Rottler, by which it would appear that the *shengalaneer* is also a native of Southern India, though I cannot say that I have ever seen it: the root, as it appears in the medicine bazars, is long, tapering, and of a pale colour. The plant would seem to be the *nymphæa abba minor*. of Gmelin. (Syst. Nat. Lin.) Of it, Willdenow says (Spec. Plant. vol. ii. p. 1153.), "Foliis cordatis integerrimis emarginatis, lobis divaricatis, acumine obtuso, calyce tetraphyllo." Six species of nymphæa have a place in the Hortus Bengalensis, all Indian plants. Mr. Moon notices but two as natives of Ceylon, the *stellata*, of which there are three varieties, and the *lotus* (Egyptian), of which there is a red (ratu) and a white (sudu). The species nymphæa nelumbo, *tamaray* (Tam.) will soon be mentioned under the article *Tamaray* (Tam.).

CCCXXX.

SHENGATARIPUTTAY சேஙககதாரிபுட ஏடை (Tam.).

This yellowish coloured, but rather insipid bark, ground into powder, and mixed with a certain portion of castor-oil, is considered as a useful application in cases of carpang (scabies), and other cutaneous affections. I should not imagine that it was a medicine of much efficacy, nor have I been able to trace from what plant it is obtained; but I think it probable that it comes from Malabar.

CCCXXXI.

SHEVADIE VAYR சிவதைவேர் (Tam.) *Doodh-kulmee* (Hind.) *Tikura* ఇక్కర (Duk.) *Tegadu vayroo* (Tel.) *Trasta-walu* (Cyng.) *Niswut* (Hindooie). also *Tella-tagada vayroo* (Tel.) *Teoree* (Beng.) *Triputā* त्रिपुटा (Sans.) *Square-stalked Bind-weed Root, or Indian Jalap.*

Convolvulus Turpethum (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Convolvuli (Juss.) *Turpeth Winde* (Nom. Triv. Willd.).

This root, as it appears in the Indian bazars, is long, somewhat fleshy, about the thickness of the finger, and of a brownish colour; in its dried state it has a somewhat sweetish yet nauseous taste,

but when quite fresh contains a milky * juice, which is in a slight degree acid. It is reckoned by the *Vytians* and *Hakeems* as one of their most valuable cathartics, considerably more active than the *sharunnay vayr* (Trianthema Monogynia).

The convolv. turpethum is common in many parts of India; it has a twining *stem*, several fathoms long; *leaves* alternate, petioled, of differing forms, from cordate to linear; they are all, however, pointed and lobate or angular; *flowers* large, white; *capsules* involved in the dry calyx, four-sided, four-celled, and one-valved; *seeds* round and black, one in each cell (See Flora Indica, vol. ii. p. 58.). Wallich, in some judicious observations on this plant in that part of the Flora Indica just cited, informs us, as well from his own experience, as that of his friends Mr. G. J. Gordon, and Mr. J. Glass, that the root is a medicine of very considerable value as a cathartic; it would appear, that it is in its bark that the medicinal virtue exists, and that this, in its dried state, has little perceptible taste or smell. An extract may be obtained in the proportion of one ounce to a pound of the dried root, and the dose of this, as well as of the powder of the bark of the root, may be a little larger than that of the common jalap; a small quantity of cream of tartar, added to the powder, or calomel to the extract, aid much their operation. In the valuable Sanscrit Dictionary, the *Amara Kosha*, and also in the *Bhāva-prakāsa* and *Rājanighantu*, † may be found many synonymes for this plant: in the last of these the root in question, teoree

* Which hardens into a resinous substance altogether soluble in spirit of wine.

† These Mr. Colebrooke mentions as amongst the best writings of the Hindoos on the Materia Medica.

(Beng.), is recommended as of use in removing worms and phlegm.

Under the head of jalap, in the first volume of this work (p. 183.), I enumerated several plants which might be substituted for that medicine, all of them however inferior to the convolv. jalapa of Vera Cruz and Mexico. Our present article had long a place in the British Materia Medica (convolvulus Indicus, alatus maximus), but of late years has fallen into disuse. I find it mentioned by Avicenna (264), under the name of تربد *turbad;* but the first amongst the Arabs who prescribed it was Mesue* (see Rei Herbariæ, Spring. vol. i. p. 249.), also Rhazes (c. 173.). Alston, in his Materia Medica (vol. ii. p. 530.), speaks of turbith as a strong and resinous cathartic, and recommended in his days in gout, dropsy, and leprosy. The plant is known to the modern Greeks by the name of τουρπεθ; it is a native of the Society and Friendly Isles, as well as of India, of the New Hebrides, and of New Holland.† Virey, in his "Histoire Naturelle des Médicamens (p. 184.), speaks of the root of the convolvulus turpethum as more drastic than the common jalap, which, however, it does not seem to be found in India. Dr. Barton, in his interesting work on the Vegetable Materia Medica of America (vol. ii. p. 9.), informs us, that the root of the *Polophyllum peltatum* (Lin.), is, as a purge, every way equal to jalap, and less irritating; the dose a scruple. Might it not grow in England? It certainly would, in cool situations, in India.

* Who gave the root, in powder, to the extent of from ʒi. to ʒij., and of the decoction, from ʒij. to ʒiv.

† Brown, Prodr. Nov. Holl. i. 485., as cited in the Flora Indica, vol. ii. p. 57.

CCCXXXII.

SHEVENAR VAYMBOO சிவனார்வேம்பு (Tam.) *Shivānimba* शिवानिम्ब (Sans.) *Small-flowered Aspalathus.*

ASPALATHUS INDICA (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Papilionaceæ. *Ostindische Witschen* (Nom. Triv. Willd.).

The *leaves*, small, pale, red *flowers*, and *tender* shoots of this low-growing plant, are supposed by the Hindoo practitioners to possess a cooling, demulcent, and alterative quality, and are prescribed in decoction in leprous and cancerous affections; half a tea-cupful is given twice daily. The root is said to have virtues, when chewed, in easing the tooth-ache, and in cases of aphthæ.

The *shevenar* is the *manelli* of Rheed. (Hort. Mal. ix. p. 69. t. 37.); it is "a shrub about four feet high, with slender hard round *twigs*, and short, alternate branches; *leaves* quinate sessile; *peduncles* one-flowered," a native of many parts of Lower India.

CCCXXXIII.

SHEVIUM சேவியம் (Tam.) *Choïa kee jur* جوبا کي جر (Duk.) *Shivikā* शिविका (Sans.) *Root of the Black Pepper Plant.*

PIPER NIGRUM (Lin.).

Shevium is the Tamool name of the root of the black pepper plant, it has a peculiar and slightly

warm taste, and is considered by the native doctors as stimulant, tonic, and cordial; they prescribe it accordingly in certain cases of fever, and other affections requiring medicines of this description; in doses of half a tea-cupful of the decoction twice daily. See article Pepper, Black, in vol. i. p. 302.

CCCXXXIV.

SHIERI GOOMOODOO (Tel.) *Goomadi* (Tam.) *Koomatha* (Can.).

GMELINA PARVIFLORA (Roxb.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ.

This is a tree with roundish, stiff, upright branches, and altogether very much resembling the gmelina Asiatica.* It may be found described in Roxburgh's Coromandel Plants, vol. ii. p. 32. Its leaves would appear to have the quality of thickening water, and rendering it mucilaginous when agitated in it, so becoming a useful drink in gonorrhœa, and other maladies requiring demulcents; the leaves of the *pedalium murex* (see article *Ananeringie* in this Chapter), and *menispermum hirsutum* †, have the same property; with this difference, that when our article is gently stirred in water, and the leaves at the same time a little bruised, the thickening of the water by these means produced, does not pass away, as in the other instances, but remains; so it must be considered as a much more valuable medicine.

* See article *Nelacumulvayr*, in this Chapter.

† This is indigenous in India; in Hindoostanie it is called *dier* or *hier*, and in Tellingoo *doosera-tiga*.

CCCXXXV.

SINGGINJANASCHA (Hind.) *Bhunghee* (Beng.) *Bristly-leaved Jew's Mallow.*

CORCHORUS OLITORIUS (Lin.).

Cl. and Ord. Polyandria Monogynia. *Gemusear-tiger Corchorus* (Nom. Triv. Willd.).

This is a plant which Dr. Francis Hamilton had brought to him in *Behar*, as one of the many used in that country by the Hindoo doctors as medicine; the fresh, or dry herb, he was told, after being toasted and reduced to ashes, is mixed with a little honey, and given twice daily in *petāi* (obstructions of the abdominal viscera). The sĭng-gĭkā (Sans.) is "a low-growing annual, seldom rising higher than two feet; the *leaves*, which vary in shape, from spear-shaped to oval and heart-shaped, are on long petioles, they are of a deep-green colour, and are slightly indented at the edges; the *flowers* are sessile, solitary, and yellow; *seeds* of an almost pyramidal form, and dark-brown" (Lin. Mant.). Three species of corchorus have a place in "Moon's Catalogue of Ceylon Plants;" six are noticed in the Hortus Bengalensis, by which it appears that two varieties of our article are known in the Bengal provinces, a *green* (*pat*, Beng.) and a *reddish* (*bun pat*, Beng.). The corchorus olitorius is sown in great plenty about Aleppo as a pot-herb, and the Jews there boil the leaves and eat them with their meat. The species *capsularis* (Lour.) is much cul-

tivated in China, particularly in the neighbourhood of Canton, where it is used for the same purposes that hemp is; the fibres of the stalks being woven into cloth (Flor. Cochin-Chin. vol. i. p. 334.).

Since writing the above, I have seen, but too late to take full advantage of it here, a description of the corchorus olitorius by the master-hand of Roxburgh, in the Flora Indica (manuscript); he observes, that it is a well-known plant, much cultivated in Bengal for the fibres of its bark, which are used as in China.

CCCXXXVI.

SINNEE ELLEY சீனஇலை (Tam.) *Chinnie kapat* چيني کا پات (Duk.) *Tsinniakoo* (Tel.) *Leaf of the Birch-leaved Acalypha.*

Acalypha Betulina (Retz.).

Cl. and Ord. Monœcia Monodelphia. Nat. Ord. Tricoccæ. *Birkenartiges Brennkraut* (Nom. Triv. Willd.).

The leaves of the ac. betulma are about two inches long, and an inch and a half broad, acuminate, and deeply serrate; they are placed on petioles, from half an inch to an inch in length, and have a most pleasant and aromatic taste and odour. As a medicine they are much esteemed by the native practitioners, who prescribe them as a grateful stomachic in dyspeptic affections, and in cholera; they are besides considered as attenuant and alterative, and are accordingly administered when it is necessary to

correct the habit. The plant appears to have been first particularly noticed by Kœnig, in Ceylon, and is well described by Retzius (Ob. v. 30. n 85.). It is the *caudafelis agressis* of Rumphius (Amb. iv. p. 84. t. 37.), and commonly rises to the height of six feet, with round branches, and a light brown bark; it differs from the *acalypha betulæ folia*, chiefly from the length of its petioles. I find five species of acalypha in the Hortus Bengalensis, five in the Flora Indica (MSS.), and three in Moon's Catalogue of Ceylon Plants. The dose of the infusion of the leaves of the acalypha betulina, as ordered by the *Vytians*, is half a tea-cupful given twice in the day.

CCCXXXVII.

SIRROO CANCHORIE VAYR சிறுகாஞ்சொ காஞ்சொடி (Tam.) *Kanchkoori ke jurr* کي جڑ کانچکوري (Duk.) *Tsinna doolagondie vayroo* (Tel.) *Casaghinnie* (Sans.) *Root of the Hemp-leaved Tragia.*

Tragia Cannabina (Lin.).

Cl. and Ord. Monœcia Triandria. Nat. Ord. Euphorbiæ (Juss.). *Hanfartige Tragie* (Nom. Triv. Willd.).

This root, which is sometimes called *coorundootie vayr*, has, in its dried state, but little taste or smell, though, in its more succulent condition, it has a rather pleasant odour: it is considered as diaphoretic and alterative, and is prescribed in decoction, together with other articles of like virtues to correct the

habit: an infusion of it is also given as a drink in ardent fever, in the quantity of half a tea-cupful twice daily. The tragia cannabina "has an erect, round, hispid stem; the *leaves*, which are hairy, stinging, are three-parted, alternate, and petioled; the *segments* lanceolate and sinnuate; *peduncles* lateral, solitary, one-flowered, the length of the leaves." It is a native of Malabar, and would appear to be the *croton hastatum* of Burm. (Ind. 305. t. 63. f. 2.) I perceive but two species of tragia in the Hortus Bengalensis, and three in Moon's Catalogue of Ceylon Plants, but the trag. cannabina is not mentioned. The species tr. involucrata is the *canchorie* of the Tamools. See that Article in this Chapter. The *tragia volubilis* is a medicinal plant of Jamaica, being there considered as diuretic and aperient (See Browne's Hist. of Jamaica, p. 336.).

Our article is mentioned with two other species in the Flora Indica (manuscript), the tragia involucrata and the t. acalypha.

CCCXXXVIII.

SIRROO COORINJA VAYR சிறுகுறிஞ்சா கொடி (Tam.) *Root of the Periploca of the Woods.*

PERIPLOCA SYLVESTRIS (Willd.).

Cl. and Ord. Pentandria Digynia. Nat. Ord. Contortæ. *Wald Schlinge* (Nom. Triv. Willd.).

This bitterish root is supposed by the native practitioners to possess virtues in cases of snake-bite; the powder applied to the part bitten: internally, it is prescribed in decoction to the quantity of half a tea-

cupful twice daily. The plant, of which our article is the root, is called by the Cyngalese *binnuge*; the root itself they suppose to have virtues similar to our ipecacuanha. The periploca sylvestris is "a shrub with a tomentose *stem*;* *leaves* ovate, somewhat hirsute on both sides, entire; *flowers* small, in opposite axillary umbels, smooth within." It was found in India by Kœnig, and is described by Retzius and Willdenow.† I find four species of periploca in the Hortus Bengalensis, amongst which our article is not: it is one of the two noticed in Moon's Catalogue of Ceylon Plants, but no native name is affixed. The periploca emetica is a native of the mountains of Malabar: its root is emetic, and might be used as a substitute for ipecacuanha.

CCCXXXIX.

SIRROO CORUTTIEI VAYR சிறுகொடி வேர் (Tam.) *Birme ke jurr* برمي کي جر (Duk.) *Tsinna avagooda vayroo* (Tel.) *Gashed Trichosanthes.*

Trichosanthes Incisa (Rottl.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ.

This species of trichosanthes seems to have been first particularly noticed and described by Rottler, in his Herbarium (MS.): its root, as it appears in the medicine bazars of Lower India, is light-coloured,

* Burman, however, makes the stem rugged, with many small tubercles.

† Spec. Plant. vol. i. p. 1252.

and very bitter to the taste: pounded small, and mixed with margosa oil, it is considered as a valuable remedy, applied to those painful sores which sometimes take place inside of the ears. I find in Moon's Catalogue of Ceylon Plants four species of trichosanthes noticed, amongst these is our article, but no native name is given. The species anguina (the *poodalungai* of the Tamools) is called in Ceylon *podi-wilanga:* it is an excellent pot-herb. The species lacinosa I have already spoken of, under the head of *Pepoodel,* in this Chapter, and also of the species palmata under that of *Coruttei.* Seven species of trichosanthes are in the Hortus Bengalensis. The trich. amara would seem to be the only species growing in Jamaica, where it is considered as a poison, and is used for killing rats (Hort. Jamaicensis, vol. ii. p. 175.).

CCCXL.

SIRROO KEERAY VAYR சிறுகீரைவேர் (Tam.) *Tseerikoora vayroo* (Tel.) *Maykanada* (Sans.) *Root of the Amaranth of the Fields.*

AMARANTHUS CAMPESTRIS (Willd.).

Cl. and Ord. Monœcia Pentandria. Nat. Ord. Amarinthi (Juss.). *Feld Amaranth* (Nom. Triv. Willd.).

This root has but little sensible taste or smell: it is considered by the *Vytians* as demulcent, and is prescribed in decoction, in cases of strangury, in doses of half a tea-cupful twice daily. The leaf *sirroo-keeray* is amongst the pot-herbs of the Hin-

doos. Nine species of amaranthus have a place in Moon's Catalogue of Ceylon Plants: fifteen are in the Hortus Bengalensis; but our article is mentioned in neither. I find in Willdenow (Spec. Plant. vol. iv. p. 382.) another Tamool name for it, *quai-totu-kura*, which I am not acquainted with. Of the plant itself, he says, "Caulis erectis ramosus; *folia* alterna petiolata, vix semipollicaria ovata emarginata obtusa mucronata viridia; petioli longitudine foliorum, &c. Habitat in India Orientali." In Jamaica the species *viridis* is used in clysters, in the belly-ache, as the best emollient herb that country affords: the species *spinosus* is a pot-herb in several of the West India islands.

CCCXLI.

SIRROO POOLAY VAYR சிறுபூளைவேர் (Tam.) *Khul ke jurr* کهل کي جڑ (Duk.) *Astma bayda* (Sans.) *Root of the Woolly Illecebrum.*

ILLECEBRUM LANATUM (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Holoraceæ. *Filzige Knorpelblume* (Nom. Triv. Willd.).

This root the *Vytians* reckon amongst their demulcents, and prescribe it accordingly in strangury, in doses of half a tea-cupful. The Tellingoo name of the plant is *pindie conda;* it is the *scherubala* of Rheede (Mal. x. p. 75. t. 29.), and the *achyranthes lanata* of Roxburgh, who describes it as an erect, ramous, woolly annual, with alternate *leaves*, which are orbicular; *spikes* crowded; *nectary* ten-parted,

and stigmas two-cleft: it is common every-where: in Bengalese it is called *chaya*. It is a stout, hardy plant, not more than from one to two feet high. Roxburgh objects to its being made an illecebrum (see Flora Indica, vol. ii. p. 504.). The reader may find a somewhat different description of it in Loureiro's Flora Cochin-Chinensis (vol. i. p. 162.). The Cochin-Chinese name it *rau-chieo*, but do not appear to consider it as medicinal. The Cyngalese call the illecebrum lanatum *pol-kuda-pala:* it is quite common in the neighbourhood of Colombo: three species grow in that island. I find but two in the Hortus Bengalensis.

CCCXLII.

SIRROOTALIE ELLEY சிறுதாளிஇலை (Tam.) *Tsinnataliakoo* (Tel.) *Leaf of the Convolvulus Gemellus.*

Convolvulus Gemellus (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Campanaceæ. *Zwillingsblutige Winde* (Nom. Triv. Willd.).

The leaves of this twining plant have a pleasant smell, and mucilaginous taste; when toasted, powdered, and boiled with a certain portion of ghee, they are considered as a valuable application in aphthous affections.

The plant would appear to have been first scientifically noticed by Kœnig. "The stem is tender and pubescent at top; the leaves are cordate, somewhat villose underneath; peduncles two-flowered" (Vahl. Symb. 3. p. 27.). Of it Burman observes;

" Caule volubili, foliis cordatis glabris; pedunculis bifloris" (Ind. 46. t. 41. f. 1.). It is a native of Java and the coast of Coromandel, and is remarkable for the size of its bell-shaped corolla; which is six times as large as the calyx; also because " floret ante meridiem usque ad 12 horam quod raro in calidis regionibus" (Kœnig).

CCCXLIII.

SITTAMOOTIE VAYR சிதமோடிவேர் (Tam.) *Tsinna mootopolāghum vayroo* (Tel.) *Root of the Ceylon Pavonia.*

PAVONIA ZEYLANICA.

Cl. and Ord. Monadelphia Polyandria. Nat. Ord. Columniferæ. *Zeylonsche Pavonie* (Nom. Triv. Willd.).

This root, as it appears in the medicine bazars of India, has little sensible taste or smell; an infusion of it is, I understand, ordered to be drank in fevers, but I do not believe it possesses much virtue of any kind. The plant is " an annual, with an herbaceous stem; *leaves* cordate-hastate; peduncles alternate, one-flowered, jointed" (Burm. Ind. 153. t. 48. f. 2.). The corolla is of a beautiful flesh-colour, and about the size of that of the *potentilla anserina.* In the Flora Zeylanica, I perceive, it is said to resemble much the *verbascum blattaria;* it is there spoken of (266.) under the name of hibiscus Zeylanicus. The Cyngalese call it *gasbewila,* but do not seem to use it medicinally. Since writing the

above, I find the pavonia Zeylanica described by Roxburgh, in his Flora Indica (MSS.); he observes, *stem* erect, four feet high, ramous, and all the young parts covered with much glutinous down; *leaves* scattered, horizontal, petioled, deeply three-lobed; and flowers pale rose colour in the morning, and gradually changing to a deep rose colour in the evening.

CCCXLIV.

SOOMBOONG (Javanese). *Red-stalked*, or *Balsam-bearing Conyza.*

CONYZA BALSAMIFERA (Willd.).

Cl. and Ord. Syngenesia Superflua. Nat. Ord. Corymbiferæ (Juss.). *Harzige Durrwurz* (Nom. Triv. Willd.).

The *soomboong* is a plant of very great repute amongst the Javanese; it has a pleasant balsamic odour, and a taste a little pungent, and according to Dr. Horsfield's account, its exciting qualities are combined with a considerable portion of mucilage: a warm infusion of it acts powerfully as a sudorific, and it is very often employed as a pectoral, as well by the Javanese as the Chinese. Several physicians of Samarang assured Dr. Horsfield, that they constantly employed it in complaints of the breast, colds, &c. The plant appears to be confounded with the baccharis salvia * (the *cay-dai-bi* of the Cochin-Chinese), or, perhaps, they are one and the same plant; and we know that the conyza balsam-

* See Flora Cochin-Chinensis, vol. ii. p. 494.

ifera is the conyza odorata (Rumph. Amb. vi. t. 24. f. 1.), though we find them differently described in Willdenow (Spec. Plant. vol. iii. pp. 1924. and 1944.). What would seem particularly to distinguish our article is its tomentose or downy leaves; hence it was named by Plukenett (Amath. 64.): "Conyza arbor Zeylanensis subrotundo folio maxime *tomentoso*." On Ceylon, where three species of conyza grow, it is termed *lewærælla;* it is also a native of India, and, amongst twelve other species, has a place in the Hortus Bengalensis. Since writing the above, I have seen the description of the conyza balsamifera in the Flora Indica (MSS.): Roxburgh says of it, that it is shrubby, erect, leaves alternate, short petioled, lanceolate, *petioles* short, corymbs terminal, bearing numerous bright yellow flowers, which, when bruised, smell strongly of camphor.

CCCXLV.

SOODOO TORUTTIE PUTTAY.

This is the lightish coloured bark of, I am told, a large tree which grows in the remote jungles; it is sweetish to the taste, and is one of the many medicines prescribed by the *Vytians* to purify the blood. I have not been able to ascertain what the tree is.

CCCXLVI.

SONBALLI (Hind.) *Suryavarti*, सूर्य्यवर्त्ति (Sans.) *Folded Croton.*

CROTON PLICATUM (Willd.).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Euphorbiæ (Juss.). *Gefaltetes Croton* (Nom. Triv. Willd.).

This is a plant which Dr. F. Hamilton (MSS.) had brought to him in *Behar*, as one of those which was supposed to have virtues in leprous affections; the dry plant is made into decoction, to which is added a little mustard.

The plant is common in Upper India, but I have not met with it in the lower provinces; it is called in Bengalese, as well as in Hindoostanie, *Khoodi-Okra;* and it was, according to Vahl, observed by Forskahl in Arabia; it is the croton tinctorium of Burman (Ind. 304. t. 62. f. 1.); it has been fully described by Vahl, so I shall briefly here state, from him, that it has a round, herbaceous, and somewhat rugged *stem*, and hoary branches; *leaves*, ovate, plated, crenate hirsute; the inflorescence as in the c. tinctorium. There are seven species of croton in the Hortus Bengalensis, and eight in Moon's Catalogue of Ceylon Plants. Fourteen species grow in Jamaica, three of which are medicinal plants; viz. the *c. lineare*, the powder of the dried leaves of which, Barham says, is a specific in cholic; the *c. humile*, which, according to Browne (Hist. p. 374. c. 2.), is frequently used in baths and fomentations for nervous weakness; and the *c. elateria*, the bark of which is the *cascarilla*.

The croton plicatum has been fully described by Roxburgh, in his Flor. Ind. (MSS.): it, by his account, and there is no better authority, is a straggling annual, common in India; it has a hoary appearance; *stem* and *branches* round, dichotamous, from one to two feet long; *leaves* alternate, petioled, broad-cordate; *flowers* pale yellow, male ones above the female; capsules scabrous. It would appear, that cloth, moistened with the juice of the green capsules, becomes blue after exposure to the open air; they, no doubt, contain colouring matter, which might be turned to good account in the arts.

CCCXLVII.

SONG-KOONG (Siamese).

This is a root which Dr. Finlayson found in Siam, and which the natives were in the habit of grinding down, with a little water, and using in aphthous affections, commonly used together with another root called *nirapousee* (Jav.).

Future research may ascertain what these plants are.

CCCXLVIII.

SOORA-MEEN சுறாமீன (Tam.) *Shark.*

Squalus Carcharias (Var.).

The flesh of the shark-fish, is supposed by the Hindoo medical writers, to have peculiar virtues in several diseases; and is particularly noticed by Aghastier, in his work entitled *Ahirum*, as a diet to be had recourse to in rheumatic affections.

CCCXLIX.

SOU-LINE, or CHYN-LEN (Chinese).

This is the Chinese name of a bitter root, sometimes brought for sale from China to India; it is of a pale yellow colour, and not much thicker than a quill. It is considered as possessing stomachic virtues, and is said to be held in high estimation by the Chinese. I perceive that it is noticed by Virey, in his Histoire Naturelle des Médicamens (p. 322.), who says, that the decoction of it is powerfully febrifuge (see *Bulletin de Pharm. pour* 1813, p. 395.).

CCCL.

SOTHALI (Hind.) *Damana*, दमन (Sans.) *Rough-stemmed Æschynomene.*

Æschynomene Aspera (Lin.).

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Leguminosæ. *Scharfstielige Schampflanze* (Nom. Triv. Willd.).

Dr. F. Hamilton had this plant brought to him by a Hindoo physician in Behar, from whom he learnt that it was used in decoction in dropsical affections.

"The plant rises to the height of five or six feet, with an herbaceous rugged stem; the leaves, which are composed of a great number of glaucus pinnas, come out in every side of the stem towards the top, forming a sort of head; the flowers are yellow, and come out between the leaves, two or three together

on long petioles; the legume is about four inches long" (Miller). The plant called by the Tamools in the lower provinces of India *netty cheddie* நெட்டி சேடி, in Tellingoo *bendoo chettoo*, in Dukhanie *bhend* بهينڈ, in Sanscrit *damana*, and in Hindoostanie *shoola* شولہ, is very apt to be confounded with our present article. It is the æschynomene arborea, and grows to a much greater size; the use of its wood in the arts, will be noticed in another part of this work. I find nine species of æschynomene noticed in the Hortus Bengalensis; three have a place in "Moon's Catalogue of Ceylon Plants," where our article has (in Cyngalese) the name of *mahadiya siyambala*. In Cochin-China, the stem of the species *lagenaria* is used to cork bottles with.

The æschynomene aspera is fully described in the Flora Indica (MSS.), where Roxburgh tells us, that the Bengalese call the plant fool-sola; and that, from its extreme lightness, it is used by fishermen to float their nets, and for making what are called cork-jackets.

CCCLI.

SUKKUNAROO-PILLOO சகுனரோபிலவு (Tam.) *Ginger Grass*, or *Spice Grass*, or *False Spikenard*.

ANDROPOGON NARDUS?

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Gramina.

This grass, on being chewed, has exactly the flavour of ginger; it is very common in the Cautalum hills, and in the Tinnivelly district, where the natives occasionally prepare with it an essential oil, useful in

rheumatism; they also consider an infusion of it as stomachic and febrifuge. In the first edition of this work, I, on the authority of Dr. Rottler, gave this as the andropogan nardus, he, however, implying a doubt about it; a doubt which, I presume, still remains.

The andropogon nardus, is a medicinal plant on Ceylon, there called watusæwendara in Cyngalese, and may be found described by Burman (Zey. 35.), under the title of *arundo Zeylonica*, "Fracta odore et sapore, calomi aromatici;" it is the calomus odoratus mathioli (Bauh. Pin. 17. theatr. 263.); and the narden-bartgras of the Germans. I have only seen it in its dried state, so can vouch for little more than its aromatic and stimulant properties. I am much inclined to think that the sukkunaroo pilloo is what the French know under the name of *nard. syriaque.*

Quere, whether it may not be the same fragrant grass, which Mr. Assist. Surgeon Maxwell notices in the Transactions of the Medical Society of Calcutta, (p. 367), and which the excellent Dr. Wallich believes to be the andropogon parancura (Dr. Blane); from the leaves of which we know the natives of Malacca extract a pleasant-tasted essential oil.

CCCLII.

SOTTRAJ (Hind.) *Axillary Spiderwort.*

TRADESCANTIA AXILLARIS (Lin.).

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Ensatæ. *Junci* (Juss.).

This plant was brought to Dr. F. Hamilton while

in *Behar*, by a native doctor, and said to be of great use as an external application in cases of ascites, when mixed with a little oil. On the Malabar coast, Rheede tells us, it is employed in tympanites.

"It is a creeping and ascending annual, with acute, linear *leaves; flowers* axillary and solitary; *corolla* one-petalled, of a deep blue purple, and of the shape of a funnel. The plant may be found well described in Roxburgh's Coromandel Plants (2. t. 107.); it is the *nir-pulli* of Rheede (Mal. x. p. 28. t. 13.), and is known by the Germans, by the trivial name of *winkelblutige* tradescantie; the Hindoostanie name of this plant is *bagha-nulla;* it is indigenous in India, and has a place with four other of the species in the Hortus Bengalensis. Five species of tradescantia grow in Ceylon, one of which is our article.

CCCLIII.

SURASARUNI (Hind.) *Aruni* अरुणी (Sans.) *Rhamnus-like Phyllanthus.*

PHYLLANTHUS RHAMNOIDES (Willd.).

This is a plant which Dr. F. Hamilton (MSS.), had brought to him while in *Behar*, and is said by the Hindoo medical men of that province to be a medicine of some note; the dried leaves are smoked like tobacco, in cases in which the uvula and tonsils are swelled. It is a plant of the class and order Monœcia Monadelphia, and natural order Euphorbiæ (Juss.); it is the *wegdornartiger phyllanthus* of the Germans, and the phyl. Zeylanica of Burman (Zeyl. 198. t. 88.); Of it Willdenow says, "P. foliis ovatis

obtusiusculis; pedunculis axillaribus; inferioribus geminis masculis; superioribus solitariis femineis, ramulis pinnæformibus semiteretibus." It is a native of Java, as well as of the Coromandel coast and Ceylon, in which last-mentioned country the Cyngalese call it *gas-kayila*. Nine other species of phyl. grow in that island; twenty-one are in the Hortus Bengalensis; all, except four, Indian plants.

The phyllanthus rhamnoides is described by Roxburgh, in his Flora Indica (MSS.), who tells us, that it is a small shrub, often found on waste lands, scarce any *stem;* branches numerous, leaves scattered, spreading, feathered; petioles angular, and male flowers racemed.

CCCLIV.

SUNG-ELLEY சுங்கிலை (Tam.) *Te-canta-jolty* (Beng.) *Sukkapat* سکاپات (Duk.) *Canta-goor-cannay* (Hind.) *Oopi-akoo* (Tel.) also *Tellavuppi* (Tel.) *Katu-niyada* (Cyng.) *Kundali* कुण्डली (Sans.) *Leaf of the Four-spined Monetia.*

MONETIA BARLERIOIDES (Hérét.).

Cl. and Ord. Tetrandria Monogynia. *Vierdornige Monetie* (Nom. Triv. Willd.).

The juice of this bitterish leaf is supposed by the native practitioners to possess virtues in cases of cough, consumption, and humoral asthma; it is commonly prescribed in the form of electuary, in conjunction with some other medicines. The powder of the root is sometimes also prescribed for similar complaints.

The shrub which bears the leaf in question is common on the Coromandel coast, and is also a native of the Cape, and of Ceylon, found in the neighbourhood of *Matura;* "it is prickly, with an upright ash-coloured *stem*, full of chinks; the *branches* are opposite, dense, and diffused; *leaves* opposite, spreading, ovate, or ovate-lanceolate, entire; *petiole* very short, and *flowers* axillary on the shoots, generally in clusters, in threes at the top" (l'Hérétier). See also Thunb. (Prod. 28.) The monetia barlerioides, is described by Roxburgh in his Flor. Indica (MSS.), who tells us, that it has scarce any *stem; thorns* axillary, and *leaves* opposite, short-petioled, oval-acute; male flowers axillary, small, yellow; berries eat by men and birds.

CCCLV.

TAGARAY-ELLEY தகரைசீலை (Tam.) also *Tagashay-elley* (Tam.) *Tăgarish-akoo* (Tel.) *Kulkul* قلقل (Arab.) also دجراك كبر (Arab. Forskahl). *Prabhūnātha* प्रभूनाथ (Sans.) *Leaf of the Oval-leaved Cassia.*

Cassia Tora (Lin.).

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ. *Viereckigfruchtige Cassie* (Nom. Triv. Willd.).

The mucilaginous and fetid-smelling leaves of the cassia tora, are gently aperient, and are prescribed in the form of decoction; and in doses of about two ounces, for such children as suffer from feverish

attacks while teething: fried in castor-oil they are considered as a good application to foul ulcers; the seeds, ground with sour butter-milk, are used to ease the irritation of itchy eruptions; and the root, rubbed on a stone with lime-juice, the *Vytians* suppose to be one of the best remedies for ring-worms. In the more western tracts of the Peninsula the leaves are often employed for making a warm poultice, to hasten the suppuration of boils; and in Combatore the seeds are had recourse to in combination with the *pala* (*nerium tinctorium*, Roxb.), in preparing a blue dye.

The plant is the *peti-tora* of the Cyngalese; it seldom rises higher than five feet, with an erect, roughish *stem*; "*leaflets* three pairs obovate, the outer ones larger, a subulate gland between the lower; flowers axillary, formed into close short spikes, and of a bright yellow colour" (Flor. Zeyl. 152.). It is a native of most parts of India, and was found at Campeachy by *Houstoun*. It is also by Thunberg's account a native of Japan, growing near the city of *Nagasaki* (Flor. Japon. p. 179.). The Cochin-Chinese, in whose country it seems to be very common, call it *dao-muong*, but do not consider it amongst their medicines; in the upper provinces of Bengal it is named *chakoonda*, and with thirty-three other species has a place in the Hortus Bengalensis; twelve species grow in Ceylon.

CCCLVI.

TALISHAPUTRIE தாளீசபத்திரி (Tam. and Tel.) *Talisputrie* تالس پتري (Duk.) زرنب (Arab.) *Paniyala* (Beng. and Hind.) *Tālisha*, तालीश also *Vidara* विदर (Sans.).

FLACOURTIA CATAPHRACTA (Roxb.).

Cl. and Ord. Diœcia Icosandria. Nat. Ord. Filiaceæ (Juss.). *Zugespitzte Flacourtie* (Nom. Triv. Willd.).

The small leaves and tender shoots of this fragrant-smelling plant have a taste not unlike that of rhubarb, but without its bitterness; they are considered as stomachic, are in a slight degree astringent, and are ordered in powder, in doses of half a drachm, in diarrhœa, general weakness, and consumption. We are informed by Dr. F. Hamilton (MSS.), that he found in *Behar* an infusion of the bark in cold water, in use amongst the Hindoo doctors of that province, in cases of hoarseness, given twice daily.

Of the plant, Willdenow says, "Habitat in India; *frutex* ramis cinereis alternis forte inermis; *folia* alterna petiolata ovato-oblonga acuminata adpresso, serrata; *racemi* masculi et feminei laterales copiose subsexflori" (Spec. Plant. vol. iv. p. 830.). Eight species have a place in the Hortus Bengalensis. I perceive but one a native of Ceylon, the *nivea*. The other growing there was brought to it from Molucca, the *inermis*; it is the *tomi-tomi* of the Malays, the fruit of which is edible.

CCCLVII.

TALOODALEI தலூதாலெ (Tam.) *Nellie* (Tel.) also *Teloki* (Tel.) *Vāta-ghnī* वातघ्नी (Sans.) *Phlomis-like Clerodendrum.*

CLERODENDRUM PHLOMOIDES (Vahl.).

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Phlomisartiger Loosbaum* (Nom. Triv. Willd.).

The juice of the leaves of this hoary shrub is somewhat bitter, and is considered by the Indian practitioners as an alterative; they prescribe it in those obstinate pains, which but too often accompany neglected syphilitic complaints in India, in doses of half an ounce or more twice daily. The plant is a native of Hindoostan, the volkameria multiflora of Burman (Ind. 137. t. 45. f. i.); it has been well described by Vahl. (Symb. ii. p. 74.), who tells us, that the leaves are ovate, toothed, and angular; peduncles axillary, sub-triflorous. For further particulars the reader may consult Willdenow (Spec. Plant. vol. iii. p. 386.). The Clerod. Phlomoides and four other species are growing in Ceylon. Two varieties are mentioned in the Hortus Bengalensis (p. 46.).

CCCLVIII.

TANNEER-VITTANG-KALUNG தணணீர் ரடடங்கழங்கு (Tam.) *Suffāid Mooslie* سفيد موسلي (Duk.) *Tsulla ghedaloo* (Tel.) *Root of the Linear-leaved Asparagus.*

ASPARAGUS SARMENTOSUS (Willd.).

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Sarmentaceæ. *Rankendir Spargel* (Nom. Triv. Willd.).

This long, fleshy, whitish root, is used as food by the inhabitants of Ceylon (eaten with milk), where the plant grows, with two other species. In the Southern provinces of India it is (the root) beat and afterwards soaked in cold water, which water, when drank, is supposed by the *Vytians* to have the effect of filling the small-pox, and preventing the confluent disease.

The aspar. sarmentosus is the *schædaveli kelungu* of Rheede (Mal. x. p. 19.); "it sends out from the root many weak climbing branches, which rise five or six feet high; the shoots are armed with crooked spines; the leaves, which are solitary, linear-lanceolate, are larger than in any of the rest of the genus; the flowers are small and pale, and are succeeded by red berries, which have generally three angular sides."

The species *racemosus*, Heyne tells us, in his Historical Tracts on India (p. 29.), has a bulbous root, which, according to the medical sastrum *Kalpasta-*

num, is medicinal; its Sanscrit name is *wari;* its Tellingoo one *challa:* this species is the *shutamoolee* of the Bengalese. I find five species of asparagus in the Hortus Bengalensis.

CCCLIX.

TAMARAY KALUNG தாமரைக்கிழங்கு (Tam.) *Lall-pudma* (Beng.) *Kungwelka gudda* కనువలకా కడ్డ (Duk.) *Ussulneelufir Hindee* اصل النيلوفر الهندي (Arab.) *Beykhneelufir Hindee* بيخ نيلوفر هندي (Pers.) *Yerra tamaray-gudda* (Tel.) *Padmachāri* पदमचारि also *Satapatra* सतपत्र (Sans.) *Lalkamal* (Hind.), also *Kamal* کمل (Hind.), also *Padam* پدم (Hind.) *Root of the Peltated Water-lily.*

Nelumbium Speciosum (Willd.).

Cl. and Ord. Polyandria Monogynia. Nat. Ord. Succulentæ. *Prachtige Nelumbo* (Nom. Triv. Willd.).

This is an esculent root, much sought after in many Eastern countries, such as China, Cochin-China, Persia, and India; it is also supposed to possess medicinal properties as a demulcent. I believe the plant to be the Κυαμος Αιγυπτιος of Hippocrates: it is the nymphæa nelumbo of Loureiro (Flor. Cochin-Chin. vol. i. p. 340.), who informs us, "Radix seminaque esculenta sunt, sapida et salubria: in re medica virtutem habent refrigirantem et roborantem." It is the *tamara*, also *bem-tamara*, of Rheede (Mal. ii. p. 61. t. 30.), and the *taratti* of Rumphius (Amb. vi. p. 168. t. 73.). The best de-

scription of the plant is supposed to be given by Loureiro, to which I refer the reader, as above-cited, merely here observing, that the *root*, which is the *cay-sen* of the Cochin-Chinese, is long, horizontal, creeping, and fleshy; the *leaves* exactly peltate; the *petioles* erect, and very straight; and the large *flowers* purple. Nymphæas and nelumbiums were, till of late years, often confounded: Willdenow has placed them in distinct orders, Monogynia and Polygynia, and his arrangement was the result of botanical accuracy. The nelumbium speciosum is a native of Ceylon, and is there called *nelum* in Cyngalese: it would appear that two varieties are found on that island, a white and a purple: in the Hortus Bengalensis three varieties are noticed, the third of which, of a crimson colour, is not an Indian plant, but was brought from China, where it is named *hung-lin*. The Chinese, as well as Japanese, hold this beautiful plant in great veneration; the last-mentioned people, by Thunberg's account, consider the long stalks amongst their pot-herbs. Dr. F. Hamilton, while in *Behar*, had the petals brought to him as a medicine, and was informed that they were given in the form of powder, and in conjunction with a little sugar, in cases of dysuria (Hamilton's MSS.).

Since writing the above I have read Dr. Roxburgh's description of the nelumbium speciosum, in his Flora Indica (MSS.), a description I regret I did not sooner see.

CCCLX.

TAVASHOO MOORUNGHIE தபசுமுருங்கை (Tam.), also *Poonakapoondoo. Pindi Koonda* (Tel.) *Pindi* पिण्डि (Sans.) *Tranquebar Justicia.* JUSTICIA TRANQUEBARIENSIS (Lin.).

Cl. and Ord. Diandria Monogynia. Nat. Ord. Personatæ. *Tranquebarische Justice* (Nom. Triv. Willd.).

The juice of the small and somewhat fleshy leaves of this species of justicia is considered by the natives of India as cooling and aperient, and is prescribed for children in the small-pox, in doses of a table-spoonful or two twice daily; the bruised leaves are also applied to blows and other external injuries. The plant has a place amongst many others in the Hortus Bengalensis, and is common on the Coromandel coast. It has an herbaceous *stem*, with round *leaves*, which are broad-cordate; the *spikes* are terminal and four-sided; the *flowers* solitary, in two rows on the fore-part of the spikes; and the *anthers* are calcarate (Flora Indica, vol. i. p. 131.). It would appear to have been first particularly observed by Kœnig, near Tranquebar, and is, perhaps, the *justicia parvifolia* of Lamarck. In the Flora Peruviana of Ruiz I perceive a species of justicia, which he calls *sericæa*, considered in Peru as of great use in pleurisy.

CCCLXI.

TAVATIKY (Tel.), also *Tantichi* (Tel.)

ORNITROPHE SERRATA (Roxb.).

Cl. and Ord. Octandria Monogynia. Nat. Ord. Dumosæ. *Gesagter Vogelpfester* (Nom. Triv. Willd.).

Tavatiky is the Tellingoo name of a plant common on the Coromandel coast, the root of which, Dr. Roxburgh tells us (Cor. Plant. vol. i. t. 61.), is astringent, and is used by the native practitioners of the Circars in diarrhœa; the berries, which are about the size of peas, are eaten by the natives. The tavatiky is a small mountain tree; the *leaves* threeed; *leaflets* oval; and *flowers* numerous and white. Of it, Willdenow observes, "O. foliis ternatis scabris, foliolis petiolatis ovatis acuminatis serratis, racemis simplicibus" (Spec. Plant. vol. ii. p. 322.). The plant is the *moodu-kobbæ* of the Cyngalese, and has a place, with two other species, *cobbe* and *allophylus*, in "Moon's Catalogue of Ceylon Plants:" in the higher provinces of Hindoostan it is known by the name of *rakhal-phul* (Beng.), and has, with three other species, a place in the Hortus Bengalensis (p. 27.). The ornitrophe serrata may be found described by Dr. Roxburgh, in his Flora Indica (MSS.).

CCCLXII.

TAYL-KODUGOO தேளாகொடுக (Tam.) *Tayl-munnie* (Tel.) *Ek-sætiya* (Cyng.) *Hatee-shoora* (Beng.) *Bena patsja* Rheede (Mal. x. p. 95. t. 48.) *Siriari* (Hind.) *Srī-hastinī* श्रीहस्तिनी (Sans.), also *Bhūrūndī* भूरुण्डी (Sans.) *Indian Turnsole.*

HELIOTROPIUM INDICUM (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Asperifoliæ. *Indischer Scorpionschwanz* (Nom. Triv. Willd.).

The juice of the leaves of this plant, which is a little bitter, the native practitioners apply to painful gum-boils, and to repel pimples on the face; it is also prescribed as an external application to that species of ophthalmia in which the tarsus is inflamed or excoriated.

The plant is quite common in India, and is often found in out-of-the-way corners and amongst rubbish, where the soil is rich. It is an annual, having a diffuse, ramous *stem; leaves* generally alternate, petioled, cordate, wrinkled and curled at the margins; *spikes* leaf-opposed, solitary, peduncled, and longer than the leaves; *flowers* sessile, minute, and in two rows on the upper side of the spikes; *corol* longer than the calyx; *tube* gibbous.* It, with three other species, have a place in "Moon's Catalogue of Ceylon Plants." Five species of the genus are in the Hortus Bengal-

* Flora Indica, vol. ii. p. 1.

ensis (p. 13.). The heliotropium Indicum is also a native of Cochin-China, and of the West Indies: in the first-mentioned country the natives call it *cay-boi-boi.* Of its virtues, Loureiro says, "Folia istius herbæ contusa maxime conducunt ad majores anthraces, vel, quando incipiunt, resolvendos, vel postea suppurandos" (Flor. Coch.-Chin. vol. i. p. 103.). It is well described by Browne, in his History of Jamaica (p. 150.), and I find *Barham* (p. 42.) tells us that it cleans and consolidates wounds and ulcers, and that boiled with castor-oil it relieves the pain from the sting of a scorpion, and cures the bite of a mad dog! It would appear that four species of heliotropium grow in Arabia Felix; but Forskāl does not mention them as medicinal plants (Vide Flor. Egyptiaco-Arabica Descriptiones, p. 38.).

CCCLXIII.

TAYNGA UNNAY தெங்கஎண்ணை (Tam.) *Naril ka tail* ناريل كا تيل (Duk.) *Tenkāia noonay* (Tel.) *Cocoa-nut Oil.*

Cocos Nucifera (Lin.).

This oil, which has been already slightly noticed at p. 78. vol. i., is used for culinary* purposes in some parts of the Indian peninsula, especially in Travancore, and is then prepared with great care by boiling the bruised kernels in water; on other occasions, it is obtained by expression. In the more northern tracts this oil is chiefly used for burning

* Of what is got by simple expression, even in Cochin-China, Loureiro says, "In medicina oleum hujus palmæ recenter expressum ex fructu, non est inferius oleo olivarum."

in lamps; it is also employed to soften the hair, and in the preparation of certain plaisters (kalimboo). The cocos nucifera is the *jowz-hind* جوز هند of the Arabians, and the *cay-dua* of the Cochin-Chinese. The reader may find it well described in the Flora Cochin-Chin. (vol. ii. p. 566.), and all the uses of this most useful tree admirably detailed by Loureiro.

CCCLXIV.

TAYSHAVARUM தேசாவரம் (Tam.) *Root of the Piper Dichotomum.*

Piper Dichotomum (Rottler.).

Cl. and Ord. Diandria Trigynia. Nat. Ord.

This is a jointed, warm, sub-aromatic root, found in the native druggist shops of Lower India; prescribed by the natives in fevers and in dyspeptic complaints, in infusion, in the quantity of half a tea-cupful twice daily. I find that several species of pepper are considered as medicinal at Java; by Horsfield's account, the piper peltatum, *gegombo* (Jav.), the piper terrestre, *katchur* (Jav.), and the piper medium, *wode* (Jav.), are all considered amongst their stimulants.

The piper dichotomum (Rottler) must not be confounded with the *piper methysticum* of the Friendly Islands, the stem of which is dichotomous, and the root yields, in Otaheite, the intoxicating liquor called *ava* or *kava*. Of the p. dichotomum Rottler says, in his Herbarium (MS.): "*Caul.* geniculato sulcato, ramoso; *ram.* dichotomis; *fol.* cordato-ovat.; septemnerviis, venosis."

CCCLXV.

TELINI تلينی (Hind.) *Telini Fly.*

Meloe Cichorei (Lin.).

Mylabris Cichorei (Fabric. Spec. Insect. i. 330.).

Telini is the Hindoostanie name of a kind of fly, first brought to the notice of Europeans by General Hardwicke, and which, in the higher provinces of India, is found to be an excellent substitute for the Spanish fly; it abounds in Guzerat, Behar, and Oude, particularly in the rainy season, during which period, Dr. Fleming tells us, it is seen feeding on the flowers of cucurbitaceous plants, but more especially, I understand, on that species of cucumis called in those districts *turiey*, also on the *ram turiey* (hibiscus esculentis). We are moreover informed by Dr. Fleming, that another species of meloe, which has got the scientific name of *meloe trianthemæ*, from being frequently observed in fields overrun with the common plant, trianthema decandria* (Willd.), is now much used as a safe and efficacious epispastic in the medical hospitals of the upper provinces; its peculiar qualities appear to have been first discovered by Dr. Adam Burt, superintending surgeon of the Bengal establishment, in 1809, who noticed the fly in fields around *Muttra;* it has since, however, been ascertained that it is frequently to be met with in every part of the *Doab*, and in tracts on the right

* Called in Hindoostanie بس کھوپرا (bis copra), this name, however, is also bestowed on another species of trianthema common in Upper India.

banks of the *Jumna*. I cannot learn that this valuable fly is ever seen in Lower India, where, however, several species of trianthema grow, and amongst which, perhaps, it might be found if carefully searched for. I have been informed, that the Arabians have some insect which they occasionally substitute for the common cantharides, ذراريخ zarareekh (Arab.), but whether a *meloe* or *cantharis* I know not.

The reader will find an interesting report on the meloe cichorei, by the late distinguished Dr. W. Hunter, in the fifth volume of the Asiatic Researches, (p. 216.). It may also, before concluding, be observed, that the meloe cichorei is mentioned in "Travels to Naples," by Charles Ulisse, by which it appears, that Dr. Manni, by experiments, found that forty-five grains of meloe and fifteen of euphorbium, fermented and mixed up with flour and vinegar, made an excellent blistering plaister (As. Res. vol. 5. p. 423.).

I perceive that Forskahl, in his *Materia Medica Kahirina*, speaks of a *green cantharides*, and tells us, that from its being brought to Egypt from India, it has also got the appellation of دبارن هندي, what it may be it is difficult to say.

CCCLXVI.

TENNAMARUTTOO PUNGIE தெனனமரம் ரதத்துபூசி (Tam.) *Tenkaia chettoo putthie* (Tel.) *Cotton of the Cocoa-nut Tree.*

Cocos Nucifera (Lin.).

This is a soft, downy, light-brown coloured substance, found on the outside of the lower part of

the branches of the cocoa-nut tree, where they spring from the stem, and are partially covered with what is called *panaday*, or coarse vegetable matting of the tree. The cocoa-nut cotton is used by the Indians for stopping blood, in cases of wounds, bruises, leech-bites, &c.; for which purpose it is admirably fitted by its peculiar texture. Another produce of nearly the same nature, but softer, and of a darker colour, is procured from between the trunk and the branches of the Palmyra tree, and is termed in Tamool *pannamaruttoo punjie*. And, it would appear, that the *gomutti* palm (gomutus gomuto, Rumphius) yields a somewhat similar substance, with which the natives of the Eastern Archipelago make a useful cordage (see vol. i. p. 363. of this work, note at the bottom of the page).

CCCLXVII.

TENNANG KULLOO தேனனகலோ (Tam.) *Narillie* ناريلي (Duk.) *Nargilie* نارجيلي (Arab.) *Tenkāiā khulloo. Cocoa-nut Toddy.*

Cocos Nucifera (Lin.).

This sweet, aperient, and most delicious drink has been already noticed under article *Toddy*, in the first volume of this work, p. 451.

CCCLXVIII.

TETTAN COTTAY தேத்தாங்கொட்டை (Tam.) *Tettamperel* (Malayalie). *Chil binge ka phull* چل بینج کا پھل. *Tsillaghenzaloo* (Tel.), also *Induga* (Tel.) *Chittu* (Can.) *Nirmulli* (Beng.) *Strychnos tetankotta* (Retz. Obs. ii. p. 12.). *Payah-prasādi* पयःप्रसादि, also *Kataka* कटक (Sans.) *Clearing Nut.*

STRYCHNOS POTATORUM (Willd.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Apocineæ (Juss.).

The fruit, though when very young it is made into a preserve and eaten, is reckoned, in its mature state, amongst the Emetics* of the Tamool doctors of Southern India; given, in powder, in the quantity of about half a tea-spoonful. The dried seeds are used for the purpose of clearing muddy water†: one of them being usually rubbed hard for a short time round the inside of the earthen pot, the water is afterwards poured into it, and left to settle; the impurities soon subsiding, the water will be found clear, tasteless, and wholesome. They are (the seeds), as Roxburgh properly remarks, easier to be obtained than alum (which also has this clearing quality), and are probably less injurious to the constitution. The strychnos potatorum grows to be a

* I am aware that Roxburgh says, that the pulp of the fruit is eaten by the natives; and I do not wonder at his adding, that the taste of it to him was disagreeable!

† See Bartolomeo's Voyage to the East Indies, p. 420.

larger tree than the species *nux vomica*, and is not near so common*; it has *leaves* opposite, from ovate to oval, smooth, pointed; *bark* deeply cracked (see Kœnig's Supplementum Plantarum of Linnæus, p. 148.); the *flowers* are small, erect, fragrant, and of a greenish-yellow colour; the *seeds* are not larger than a small marble, nearly round, and of a pale-brown colour.

The strychnos potatorum is the *ingini* of the Cyngalese, and, with four other species, grows in Ceylon. Three species are noticed in the Hortus Bengalensis.

Niebhur, in his Travels through Arabia, informs us (vol. i. pp. 71, 72., English edition), that the inhabitants of Cairo in Egypt, render the muddy water of the Nile quite clear by rubbing bitter† almonds, prepared in a particular manner, on the inside of the earthen jars in which the water is kept.

CCCLXIX.

TEVADARUM தேவதாரம (Tam.), also *Devadarum* (Tam.) *Dewudar* دیودار (Duk.) also *Semmanattymarum* சேமமணதகிமாரம (Tam.) *Dewadari* (Tel.) *Amara-buruhi* (Sans.) *Eryothroxylon Areolatum.*

Eryothroxylon Areolatum (Willd.).

* Flora Indica, vol. ii. p. 263.

† Louzmur لوزمر (bitter almond). The sweet almonds the Arabians call لوزحلو. The first they reckon amongst their Deobstruents; the second amongst their Provocatives. See the Materia Medica of *Noureddeen Mohammed Abdulla Shirazy*, article Almond.

Cl. and Ord. Decandria Monogynia. Nat. Ord. Malpighiæ (Juss.). *Weichstachliges Rothholz* (Nom. Triv. Willd.).

The young leaves and tender shoots of this fragrant-smelling tree are supposed to be of a cooling nature; and, when bruised and mixed with a certain portion of gingilie oil, form a kind of refreshing liniment for the head. The bark is also occasionally ordered, in infusion, as a tonic. The tree is a native of Malabar, where it is sometimes called by the English the *ceder tree;* also red wood tree, from its colour; though the term red wood tree is, more properly applied to the shemmarum (swietenia febrifuga). The tree, which is beautiful, but small, "has long, spreading, and somewhat rugged *branches; leaves* alternate, petioled, obovate; with *flowers* small and white, in alternate bundles, on short peduncles; the fruit is an oblong drupe, not unlike that of the barberry" (Swartz). The reader will find the tree described by Browne, in his History of Jamaica (p. 278. t. 38. f. 2.). It is a native of the West Indies, as well as of Malabar, and commonly, in the first-mentioned country, is called red wood, or iron wood. See Lunan's Hortus Jamaicensis, vol. ii. p. 115.

I find two species of eryth. in Moon's Catalogue of Ceylon Plants, the *monogynum* and *lucidum;* and but one, the monogynum, in the Hortus Bengalensis.

CCCLXX.

TIRNOOT PATCHIE VERIE திருநாதக பாசனசெடிஎர (Tam.) *Subzékebeenge* سبزي كي بينج (Duk.) *Vepoodipatsa vittiloo* (Tel.) *Deban Shab* شاب دبان (Pers.) *Kalee tulsee* (Hind.) شا هسغرم (Arab.) *Manjīrika* मञ्जीरिक (Sans.) *Seed of the Sweet Basil.*

OCIMUM BASILICUM (Lin.).

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Labiatæ (Juss.). *Gemeines Basilienkraut* (Nom. Triv. Willd.).

The small seeds of the ocymum basilicum, which is a very fragrant shrub, are considered by the *Vytians* as of a cooling and mucilaginous nature; an infusion of them they consequently order as a remedy in gonorrhœa, heat of urine, and nephritic affections, in the dose of half a tea-cupful twice daily. The juice of the leaves is squeezed into the ear, in the *ear-ache*. The species ocymum pilosum (Roxb.) is common in Upper Hindoostan, where it is called in Arabic *habāk* حباک and in Persian *raihān* ریحان and *nāz-boo* نازبو; its seeds, بزر ریحان, are in their nature similar to those of the ocymum basilicum, but somewhat more aromatic, and are a favourite medicine, Dr. Fleming tells us, with the Hindoo women for relieving the after-pains of parturition. The ocymum basilicum would appear to be the بادرج of Avicenna (146.), and of Serapio (c. 157.). Sweet basil is noticed by several of the

ancient writers, such as Galen, Dioscorides, and Pliny, who say it is recommended in cases of scorpion's stings, and for head-ache. The plant is common in Persia*; and is the *komang-gi* of the Javanese. It has an erect, round, fruticose stem, rising to about the height of three or four feet; with leaves ovate and smooth; calyxes ciliate; and small white flowers. There are, however, several varieties of ocymum basilicum, varying in shape, odour, and colour of the leaves. Our article is the *suwanda-tala* of the Cyngalese, and grows, with eight other species, on Ceylon: in Cochin-China it is cultivated in gardens, and is called by the natives *rau-que;* they consider the leaves amongst their medicines; of them Loureiro says, "Attenuans, pellens, excitans†, et cephalica" (Flora Cochin-Chin. vol. ii. p. 370.). Eleven species have a place in the Hortus Bengalensis. The species *tenuiflorum* is called by the Javanese *lampes;* it, and the ocymum gratissimum, which they term *selasse*, are amongst their mild aromatic stimulants.

CCCLXXI.

TIRROOGHUCALLIE திருகுகக்கள்ளி (Tam.) *Peelie saynd* پيلي سيندڈ (Duk.) *Azfur zukkooen* ازفر زخوم (Arab.) *Tirrooghoo jemmoodoo* (Tel.) *Vajratunda* वज्रतुण्ड (Sans.) *Twisted Spurge.*

EUPHORBIA TORTILIS (Rottler).

* Brought from that country to India, by Sir John Malcolm, in 1800.

† Virey, in his "Histoire Naturelle des Medicamens," p. 176., says, that it has emmenagogue qualities.

Cl. and Ord. Dodecandria Trigynia. Nat. Ord. Euphorbiæ (Juss.).

The milky juice of this species of euphorbia, which has got its Tamool name from being, as it were, twisted and scolloped, is very similar in its appearance and nature to that of the euphorbium antiquorum, and is considered by the *Vytians* as a very drastic cathartic and deobstruent; it is prescribed in small doses (about two gold fanams weight) in conjunction with palmyra jaggary: in its undiluted state it acts as a vesicatory, but when mixed with a certain portion of castor oil it forms a useful embrocation in cases of palsy and chronic rheumatism. This jungle plant* I have never seen; Dr. Rottler tells me, that it differs chiefly from the euphorbia antiquorum in the shape of its branches, which, in place of being three-sided and distinct, are contorted and undulating; they are of a green colour, and contain much more milky juice. The *kalli* (Tam.), or milk-hedge, which is the euphorbia tirucalli (Lin.), is also used as a vesicatory: this plant is the *kayoo-oorb* of the Javanese, who, according to Horsfield's account, reckon it amongst their most valuable medicines, applied externally in cases of herpes; they also employ it as a cathartic. The root, as appears by the Hortus Malabaricus (8. t. 44.), is given in decoction for the belly-ache, in which work Rheede moreover informs us, that the milk of the plant is considered as a purgative, and to have virtues similar to the *shadraij-kullie* (euphorbium antiquorum). I find the euph. tirucalli is noticed by Virey in his "Histoire Naturelle des

* Quære, whether the tirrooghucallie may not be a variety of the quol-quall of the Abyssinians, with the description of which it agrees, in some respects. See Bruce's Travels, vol. v., Appendix, p. 41.

Medicamens" (p. 299.), under the French name *euphorbes antivenerienne*s; he says it cures the venereal disease, and is at the same time emetic and purgative: it is the *gas-nawahandi* of the Cyngalese, the *cay-sanho-xanh* of the Cochin-Chinese, and the *lunka-shii* of the Bengalese. Rumphius gives a particular account of it under the appellation of ossifraga lactea (Amboina, vii. p. 62. t. 29.).

CCCLXXII.

TOOLASEE VAYR தூளசீவேர் (Tam.) *Toolsikejurr* تلسی جڑ (Duk.) *Root of the Purple-stalked Basil.*

Ocimum Sanctum (Lin.).

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Labiatæ (Juss.). *Heiliges Basilienkraut* (Nom. Triv. Willd.)

This root the Tamool practitioners are occasionally in the habit of prescribing in fevers in the form of decoction, in the quantity of half a tea-cupful twice daily. Like that of the *cunjam koray* (ocimum album), the juice of the leaves of the *tolasee* is recommended to be given internally in catarrhal affections. The plant is, in the upper provinces, known by the Hindoostanie and Bengalie name of *kala toolsee*; its Sanscrit appellation is *arjaka*, also *parnāsa*; it is the *nalla-tirtava* (Rheede), Mal. x. t. 85. The hairy *stem* of this species of ocimum seldom rises higher than a foot and a half, with somewhat oblong, bluntish serrate waved *leaves;* the *petioles* are rough-haired, and of a dark-purple colour; *corolla* bright purple, scarcely longer than the calyx (Willd. Spec. Plant.

vol. iii. p. 162.). It is a native of India. In the Eastern islands it is called *sulasi* in Malay, and is, by Crawfurd's account, cultivated with care for the purpose of strewing on graves. The plant is described by Roxburgh, in his Flor. Indica (MSS.), where he tells us it is considered by the Brahmins as sacred to Vishnoo.

CCCLXXIII.

TOODAVULLAY தூதுளை (Tam.) *Moondlamoosteh* (Tel.) *Alarka* अलर्क (Sans.) *Three-lobed Nightshade.*

SOLANUM TRILOBATUM (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Luridæ. *Dreylappiger Nachitshallen* (Nom. Triv. Willd.).

The root, leaves, and tender shoots of this creeper, are all used in medicine by the Tamools; the two first, which are bitter, are occasionally prescribed in consumptive cases in the form of electuary, decoction, or powder; of the electuary a tea-spoonful and a half are given twice daily. The *stem* is prickly, shrubby; *leaves* wedge-form, angular, subtrilobate, obtuse-smooth; *flowers* large, violet-coloured, racemed; *berries* small, like those of the elder (Lin.), also Willd. (Spec. Plant. vol. i. p. 1049.)

This species of solanum is the *wæl-tib-batu* of the Cyngalese, and may be found described by Burman (Ind. t. 22. s. 2.). The Tellingoos of the Northern Circars call it *oochinta-kura.* Roxburgh notices it in his Flora Indica (vol. ii. p. 253.), and gives a description of the plant somewhat different from the above,

which the reader may perceive by turning to the volume and page just mentioned. The leaves of the plant are eaten by the Hindoos.

The plant is described by Roxburgh in his Flor. Indica (MSS.), as shrubby and scandent, with scattered, petioled, sub-ovate *leaves*, large, purple, blue flowers ; and berries resembling red currants.

CCCLXXIV.

TOOMUTTIKAI தூமுட்டிகாய் (Tam.) *Boddama kāiā* (Tel.) *Fruit of the Callous-leaved Bryony.*

Bryonia* Callosa (Rottler).

Cl. and Ord. Monœcia Monadelphia. Nat. Ord. Cucurbitaceæ.

The small bitter seeds of this fruit are sometimes prescribed by the native practitioners in worm cases, in conjunction with castor oil ; they are also employed by the farriers in some of the diseases of horses. A fixed oil is prepared from the seeds by boiling, which the poor use for burning in their lamps. The plant is a creeper, spreading wide, with small yellow flowers, and leaves of a rather fetid odour ; but let us give Dr. Rottler's own words, kindly furnished me by Sir Alexander Johnston, and taken from a manuscript copy of Dr. R.'s Herbarium:

* Of the species bryonia dioica much has been said by many medical writers, at different times. Virey, in his Histoire Naturelle des Medicamens, has these words: "Racine épaisse, blanche ; odeur nauseuse ; purge violemment par haut et bas, est splénique, hépatique, et les secousses qu'elle produit dissipent les obstructions et l'hydropisie" (p. 305.).

"*Caul.* filiform; sulcat; callis setosis scaberrimo; *fol.* large petiolat; cordat; 3-5 lobat, rotundat, dentat, callos. scabris subtus venos. venis hispidis; *baccis* globos, magnis, glabris."

CCCLXXV.

TOON MARUM தாமரம் (Tam.) *Tunda* (Can.) *Toon*, also *Tood* (Beng.) *Tunna* तुन्नः (Sans.) *Toon Tree.*

CEDRELA TOONA (Roxb.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Meliæ (Juss.).

The cedrela toona is described by Roxburgh at great length, in the second volume of the Flora Indica (p. 423.). It is a beautiful, large timber tree, common in Bengal; the *trunk* is erect; *bark* smooth and grey; *branches* numerous, and forming a large shady head; *leaves* alternate, abruptly pinnate, drooping, from twelve to eighteen inches long; *flowers* very numerous, small, white, and smelling like honey. The bark is powerfully astringent, and, though not bitter, is reckoned a very good substitute for Peruvian bark, particularly when joined with a small portion of the powdered seed of the *cesalpinia bonducella*, which is the *kutkulegi* of the Bengalese, and is most powerfully bitter. We shall say more of the cedrela toona in another part of this work. There are but two other species of the genus, the c. villosa (Roxb.), and the cedrela odorata, a native of South America; the last is nearly allied to the cedrela rosmarinus of Loureiro (called by the Chi-

nese *ti-phu-pi*), and of which he says, " Virtus præsertim foliorum, et florum cephalica, nervina, deobstruens ; valet contra catarrhum" (Flor. Cochin-Chinensis, vol. i. p. 160.).

CCCLXXVI.

TUNG-GULUNG (Javanese). *Tungulung*.

AMYRIS PROTIUM (Willd.).

Cl. and Ord. Octandria Monogynia. Nat. Ord. Terebentaceæ. *Ostindischer Balsamstrauch* (Nom. Triv. Willd.).

The shells of the fruit of this species of amyris yield an aromatic essential oil, which is useful, Roxburgh tells us, at Java, as a substitute for turpentine and other stimulating oils. The tree is the protium Javanicum of Burman (Ind. 88.), and the *tungulung* of Rumphius (Amb. vii. p. 54.). It is a perennial plant, a native of several of the Eastern islands, having opposite, pinnate, *leaves ; leaflets* smooth, petiolate, resembling those of the laurel; *panicle* manifold ; and a *nectary* from a marginated receptacle, surrounding the germ, within the stamens (Spec. Plant. Willd. vol. ii. p. 337.). I find two species of amyris are natives of Ceylon, the *Zeylanica* (wæta-hik-gaha) and *agallocha* (gugul.). Nine species have a place in the Hortus Bengalensis, amongst which our article is not. The species ambrosiaca is a native of Cochin-China, and is there called *to-hap-binh-khang*. The whole tree is sweet-scented; the trunk, on being wounded, yields a balsam, useful in dysentery ; the dose about a drachm

in red wine. The tree would appear also to grow in the woods of Guiana; the Caribbee name of it is *arouaou;* the French call it *arbre de l'encens.*

CCCLXXVII.

TOORA ELLEY தாராயிலை (Tam.) *Chayntārāshiākoo* (Tel.) *Goom* گوم (Pers.) *Grīshmajā* ग्रीष्मजा (Sans.) *Leaf of the Pharnaceum Mollugo,* or *Bed-straw-like Mollugo.*

PHARNACEUM MOLLUGO (Lin.).

Cl. and Ord. Pentandria Trigynia. Nat. Ord. Caryophyllei. *Weiches Pharnaceum* (Nom. Triv. Willd.).

The leaves of the phar. mollugo are bitter, but not unpleasant to the taste, and are justly held in estimation by the native practitioners, who consider them as stomachic, aperient, and antiseptic, and prescribe them accordingly; an infusion is given in the quantity of half a tea-cupful, twice daily; they are especially supposed to be indicated in suppressions of the lochia, and are also, when applied warm and moistened with a little castor-oil, reckoned a good application for the ear-ache.

The plant has an herbaceous, procumbent dichotomous, jointed, round *stem;* and *leaves* in whorls, four or five, unequal in size, somewhat fleshy, rugged at the edge, and elliptic-lanceolate.* It is a native of India, as well of Ceylon and Cochin-China; the Cyngalese call it, *heen-telika-pala;* and it may be

* Spec. Plant. Willd. vol. i. p. 1508.

found described by Burman (Zeylon. t. 7.), also in the Hort. Malab. m. 10. t. 24., where it gets the appellation of *kalpa-tejera*. In the higher provinces of India it has got the Hindoostanie and Bengalese name of *gima*. Loureiro tells us, that the Cochin-Chinese, who name it *co-dang*, believe the herb to have refrigerant properties. Two species of phar. have a place in the Hortus Beng.; three grow in Ceylon.

CCCLXXVIII.

TOTAL VADIE தொட்டாற்சுருங்கி (Tam.) *Moonooghoo tamara* (Tel.) *Samanggā* समंगा (Sans.) *Humble Plant.*

Mimosa Pudica (Lin.).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Leguminosæ (Juss.). *Gemeine Sinnpfhanze* (Nom. Triv. Willd.).

A decoction of the root of this plant is considered on the Malabar coast, to be useful in gravellish complaints. The *Vytians* of the Coromandel side of India prescribe the leaves and root in cases of piles and fistula: the first are given in powder, in a little milk, to the quantity of two pagodas weight or more, during the day.

The *total vadie* (Tam.), is a low-growing prickly plant, with a hispid *stem; leaves* subdigitate and pinnate; *root* composed of many hairy fibres, which mat close together; *legume* oblong and compressed; *seeds* solitary, rounded, lens-shaped, and shining. See Spec. Plant. Willd. (vol. iv. p. 1031.), also Miller's

Dictionary, in which we are informed, that Parkinson gave this species of mimosa the name of mimic sensitive plant; it is a native of Brazil, as well as of India, and appears to be the *daun-tocol-manusia* of Rumphius; it grows on Ceylon, where it is named *wæl-nidi-kumba* by the Cyngalese.

No less than thirty-seven species of mimosa are noticed by Roxburgh, in his Flora Indica (manuscript copy).

CCCLXXIX.

TOYAPIPPALI तोयपिप्पली (Sans.) *Pippal-yang* (Hind.) *Poplar-leaved Croton, or Tallow-tree.*

CROTON SEBIFERUM (Lin.).

Cl. and Ord. Monœcia Monodelphia. Nat. Ord. Euphorbiæ (Juss.).

I find this noticed in Dr. F. Hamilton's MSS., and appears to have been a medicine brought to him while in Behar; where he learnt, that the native practitioners of that district were in the habit of preparing with the dry and fresh plant and mustard-seed oil a decoction, with which those are rubbed who suffer from nocturnal fever. Previous to seeing this plant mentioned by authority so unquestionable, I was not aware that the croton sebiferum grew in India. Abel * met with it in China, called by the Chinese *ya-ricou*. It is a large beautiful tree; the leaves, which are rhomb-ovate, acuminate, flat, and smooth, are said to dye a fine black.† The famous

* See vol. i. p. 424. of his work.

† See Du Halde, also Grosier, p. 438., English edition.

vegetable tallow is obtained from the kernels by expression, and which by boiling becomes as hard as bees'-wax.

CCCLXXX.

TRIANGGULI (Hind.) *Bin-mæ* (Cyng.) *Tryangguli* त्र्यंगुलि (Sans.) *Three-lobed Kidney-bean.*

PHASEOLUS TRILOBUS (Lin.).

Cl. and Ord. Diadelphia Decandria.

This plant was brought to Dr. F. Hamilton in Bahar, where he was informed by the *Vytians* of that district, that the fresh herb was given in decoction in cases of irregular fever.

CCCLXXXI.

TRINPALI (Hind.) *Palanggini* पलंगिनि (Sans.).

MANISURIS GRANULARIS (Lin.).

Cl. and Ord. Triandria Digynia. Nat. Ord. Gramina.

This is a plant which was brought to Dr. F. Hamilton while in Behar, where it was considered as medicinal, and prescribed internally in conjunction with a little sweet-oil, in cases of enlarged spleen and liver (MSS.).

The m. granularis may be found described by Roxburgh, in the first volume of his Flora Indica, p. 352. It rises to about the height of two feet, with a ramous, sub-erect, hairy *culm ; spikes* fas-

cicled; *leaves* numerous, very hairy, stiff, and sharp; *rachis* jointed and much waved; *flowers* from four to ten of each sort, male and hermaphrodite. Willdenow places this plant in his class and order Polygamia Monœcia; it is described by Swartz, Prod. 25. and in the Flor. Ind. Occident. i. p. 186.; to it Willdenow has given the trivial German name of *rundkorniges fadengras*. There are yet known but two species of the genus, our article and the manisurus myurus, for which, see Roxburgh's Flora Indica (manuscript copy).

CCCLXXXII.

TRIPUNGKHI (Hind.) *Tripakshi* त्रिपक्षि (Sans.).

COLDENIA PROCUMBENS (Lin.).

Cl. and Ord. Tetrandria Tetragynia. Nat. Ord. Asperifoliæ. *Liegendæ Coldenie* (Nom. Triv. Willd.).

This is a plant which was brought to Dr. F. Hamilton in Behar, as one of the many which are used in medicine in that province; equal parts of the dry plant and fenugreek seeds rubbed to a fine powder, and applied warm to boils, quickly brings them to suppuration.

The coldenia procumbens, and it is the only species of its genus, has a place both in the Hortus Bengalensis, and Moon's Catalogue of Ceylon Plants, but in neither of them is there affixed any native name. It is a small annual, spreading flat on the ground, common on dry rice grounds *; the *leaves* are alternate, short, and sessile, deeply crenate, and

* Flora Indica, vol. i. p. 468.

of a glaucous appearance; *corolla* a pale blue, and very small; *fruit* composed of four cells, and wrapped up in the calyx, with a single seed in each cell (Miller).

CCCLXXXIII.

TSELKACHA, or TELKACHA (Hind.) *Covay* (Tam.) *Koondorie* كندوري (Duk.) *Donda* (Tel.) *Jīvaka* जीवक, also *Vimba* विम्ब, also *Patuparni* पटुपर्णि (Sans.) *Large-flowered Bryony.*

Bryonia * Grandis (Lin.).

Cl. and Ord. Monœcia Syngynesia. Nat. Ord. Cucurbitaceæ.

This plant was brought to Dr. F. Hamilton while in Behar, where he learnt, from the Hindoo doctors of that district, that the juice of the leaves was successfully applied to the bites of all animals, which are apt to be succeeded by a sore difficult to heal.

It is "a large, smooth, climbing shrub, with *leaves* cordate, angular, smoothish, glandular at the base underneath; *tendrils* simple; the *flowers* are large, white, androgynous, lateral, on one-flowered peduncles; *berry* roundish, smooth, red, five-celled; *seeds* few, oblong, obtuse" (Loureiro). The plant is common in India, and is also a native of Cochin-China and Ceylon; in the first-mentioned country it is called *deom-a-nguchia*, in the last *ken-kækiri;* I find it with five other species in Moon's Catalogue of Ceylon Plants. Four species have a place in the Hortus

* Five species of bryonia are described by Roxburgh, in the manuscript copy of the Flora Indica.

Bengalensis, but our article is none of them. The reader may find it in Rumphius (Amb. v. p. 448. t. 166. f. i.), under the name of vitis alba Indica.

CCCLXXXIV.

TSIERU-KIRGANELI (Hort. Mal. x. p. viii. t. 16.) *Herba Mœroris Rubra* (Rumph.) *Bin-nelli* (Cyng.) *Diuretic Phyllanthus.*

PHYLLANTHUS URINARIA (Willd.).

Cl. and Ord. Monœcia Monodelphia. Nat. Ord. Tricoccæ.

This an herbaceous annual, seldom rising higher than a foot; *leaves* many-paired; *leaflets* ovate-lanceolate; *flowers* heaped, axillary, sessile; *stamens* three; *styles* three, bifid; *capsule*, three-cornered, three-valved, and three-grained; the whole plant is milky, the stem, leaves, and calyx reddish (Loureiro). It has got its name from its supposed diuretic qualities, allowed both in Malabar and Cochin-China; in the last-mentioned country it is called *co-sua*, and also reckoned emmenagogue (Flor. Coch. Chin. vol. ii. p. 554.).

CCCLXXXV.

TSILLAY CHEDDIE, or TILLAY CHEDDAY (Tam.) *Cay lieodo* (Coch. Chin.) *Notched-leaved Excœcaria.*

EXCŒCARIA COCHIN-CHINENSIS (Lour. and Lin.).

Cl. and Ord. Dicœcia Triandria. Nat. Ord. Tricoccæ.

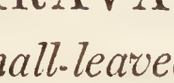
A decoction of the leaves of this tree is occasionally given by the Hindoo doctors in epilepsy, in the quantity of a quarter of a tea-cupful, twice daily; the leaves in their fresh state are said to possess a considerable degree of acrimony.

The tillay cheddie is a native of Cochin-China as well as of India and China; in which last-mentioned country it would seem to be chiefly cultivated, by Loureiro's account, "propter foliorum rubrorum pulchritudinem;" and is called *cay-lieodo*. It is a shrub having an arborous *stem*, rising to about eight feet high, with lanceolate, slightly serrated *leaves*, the female *flowers* with three, long, awl-shaped, reflex stigmas, a red, three-lobed fleshy *capsule*, and ovate *seeds*, smooth and even.* Loureiro observes, that the whole plant possesses an agglutinating astringent quality. The excœcaria agallocha is frequently found in the Southern tracts of the Peninsula, and on Ceylon about Pantura, where it is termed *tela-keeriya* (See Moon's Catalogue of Ceylon Plants, p. 68.); a name so similar to that of our article, that I am lead to suspect, there may be some mistake; though, it must be remarked, that no one has yet noticed any medicinal properties in the excœcaria agallochum; whatever may be the virtues of the alœxylum† agallochum, or aloes-wood, this much we may add, that Loureiro says, in speaking of the excœcaria Cochin-Chinensis, "nec *agallochum*, quamvis spurium, in illa inveniri" (Lin.). See article Wood, Aloes, vol. i. p. 479. of this Work.

* Flora Cochin-Chinens. vol. ii. p. 612.

† See article Wood, Aloes, vol. i. p. 479. of this work.

CCCLXXXVI.

TSJEROU MAU MARAVARA  (Hort. Mal.) *Small-leaved Epidendrum.*

EPIDENDRUM TENUIFOLIUM (Lin.).

Cl. and Ord. Gynandria Monandria. Nat. Ord. Orchideæ.

Rheede, in speaking of this parasitical plant, with its *leaves* on the stem subulate and channelled, says, that the powder of it, mixed with vinegar, is supposed, on the Malabar coast, to have the power of removing mucus from the bladder and kidneys; of relieving heat of urine and gonorrhœa; and of moderating an overflow of the menstrual discharge. See Hort. Mal. xii. t. 5.

I find but one species of epidendrum in Moon's Catalogue of Ceylon Plants. The epid. *amabile*, which is noticed by Rumphius (Amb. vi. t. 43.), and none in the Hort. Bengalensis; two are mentioned by Loureiro as Cochin-Chinese plants, but they are not medicinal. I perceive, that no fewer than fifty-one species of this genus are to be found in Jamaica; but one of which, the *claviculatum*, is medicinal; and, according to the authority of Dr. Drummond, is a powerful vermifuge, in doses of a table-spoonful of the juice; he also states, that it is useful in dropsical affections. See Hort. Jamaicensis vol. i. p. 339.

The species *vanilla*, which has lately been transferred to a distinct genus, vanilla aromatica (Willdenow, Spec. Plant. vol. iv. p. 121.), is a native of

Ceylon, and is called by the Cyngalese *hin-nil-wælla;* but I do not know whether the fruit is there gathered and prepared as it is in South America, where it is considered, by medical men, to be a grateful stomachic. As an ingredient for giving a pleasant flavour to chocolate, it would seem that *vanilla* is only used in England.

We are told by Roxburgh, in his Flora Indica (MSS.), that the species tessellatum is a very beautiful parasitic perennial, common amongst the Circar mountains; it has this peculiarity, that it continues to grow, after having been hung up in a room.

CCCLXXXVII.

TSJERROO UREN சேருப்பாலை (Hort. Mal.) also *Chirupuram* (Tam.) *Hingul-kura* (Cyng.) *Red Melochia.*

MELOCHIA CORCHORIFOLIA (Lin.).

Cl. and Ord. Monadelphia Pentandria. Nat. Ord. Malvacceæ (Juss.). *Cortchorus Blattrige Melochie* (Nom. Triv. Willd.).

The whole of this plant (with the exception of the root), boiled in oil, is supposed, on the Malabar coast, to be an efficacious remedy for preventing the bad consequences from the bite of water-snakes (Hort. Mal. ix. p. 143. t. 73.). It is an annual, having rugged, red-like *branches;* and *flowers* in sessile heads; *capsules* roundish; and *leaves* subcordate sublobate (Flor. Zeyl. 246.). In Willdenow (Spec. Plant. vol. iii. p. 604,), I moreover find, "*Flores* capitate, sessiles, terminales; *corollæ* dilute

purpurascentes fundo flavo." The m. corchorifolia is a native also of Ceylon, called by the Cyngalese *keen-gal-koora*; in Moon's Catalogue I find two other species. Our article is named by the Bengalese *tiki-opra;* it is the only species noticed in the Hortus Bengalensis. Amongst the Cochin-Chinese it is considered as a medicinal plant; they have given it the appellation of *cay-bay-giei*, and order it in cases requiring emollients. See Flor. Coch.-Chin. vol. ii. 407.

CCCLXXXVIII.

TSJOVANNA AMELPODI சடாமஞ்சில் தேடி (Malealie) or *Chivan amelpodi* (Tam.) *Chota Chand* چوٹا چاند (Hind.) *Ratu-eka-weriya* (Cyng.) *Chandra* (Beng.) *Patalganni* (Tel.) *Chandrikā* चन्द्रिका (Sans.) *Ophioxylon of Serpents.*

OPHIOXYLON SERPENTINUM (Lin.).

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Stellatæ.

Tsjovanna amelpodi is the name given, on the Malabar coast (Rheede Mal. vi. 81. t. 47.), to a plant, the bitter root of which is supposed to have sovereign virtues in cases of snake bites and scorpion stings; it is ordered, in decoction, to the extent of a pint in twenty-four hours, and the powder is applied, externally, to the injured part.

The reader may find the ophioxylon serpentinum admirably described by Roxburgh, in his Flora Indica, vol. ii. p. 530. We are there told, that it is a native of the Circar mountains; the *stem* is woody

erect, climbing or twining; the *bark* ash-coloured; *leaves* three, four, or fivefold, short petioled, oblong, pointed, waving, entire, nearly five inches long and two broad; *stipules* none; *fascicles* axillary; *peduncles* long, smooth, and round. The *hermaphrodite flowers* are well described in the Genera Plantarium, except that the corolla is always contracted. The *berry* is two-lobed, shining, and black; *seed* solitary and somewhat trapeziform. The same author adds, that it is used by the Tellingoos as a febrifuge, also for the bites of poisonous animals, and to promote delivery in tedious cases. The plant is the *radix mustela* of Rumphius (Amb. vii. 29. t. 16.). I have mentioned, under the head of *Mendi* (ophiorhiza mungos), that that plant had often been confounded with the one now under consideration, but that they are altogether distinct. Horsfield observes, that the *ophior. mungos* is nearly insipid and inert, while the ophioxylon serpentinum may prove a valuable acquisition to medicine. The Javanese class it amongst their Anthelmintics, and give it the name of *puli pandak*. It may be found noticed both by Burman in his Thesaur. Zeylan. (t. 64.), and Garcias (Ab. Hort. Hist. Oromat.); the latter recommends it as stomachic. Rumphius speaks of it as an antidote to poisons; and Bontius, in his Hist. Mat. Med. Ind., tells us, that it cures fever. It would appear that *pulan* and *krodukras* are Javanese names for two other species of ophioxylon. Our article is growing on Ceylon, about *Caltura;* and has a place in the Hortus Bengalensis (p. 19.). It does not appear to be known on the Malayan peninsula, or in Cochin-China.

The ophioxylon serpentinum is certainly one of those plants which have got the greatest repute for

the bites of poisonous snakes. I cannot myself say that I have had any experience of its use on such occasions, having invariably, trusted to the promp administration of Madeira wine, and generally with success ; one bottle, given at two different draughts, with the intermission of but a few minutes between them, saved a young man bitten by a *coverkapel.* In the excellent Transactions of the Medical Society of Bengal, vol. i. p. 55., is a well-detailed case of a person having been bitten by the very poisonous snake called *siah chanda*, also *amaitra*, and who was cured by Mr. Breton's giving him the caustic volatile alkali (aqua ammoniæ causticæ, Dub.), in doses of fifteen drops, frequently repeated. I have known the volatile alkali to fail in the bites of the *coverkapel.* Madeira wine is a more quick, generous, and diffusible stimulus, and appeàrs to avert death by giving tone, for a time, to the heart and arteries, till the sinking influence of the poison shall have passed away.

CCCLXXXIX.

TSHOMORRO (Javanese). *Kasagaha* (Cyng.) *Tinian Pine*, or *Horse-tail Casuarina.*

CASUARINA EQUISITIFOLIA (Lin.).

Cl. and Ord. Monœcia Monandria. Nat. Ord. Coniferæ. *Indischer Streitkolbenbaum* (Nom. Triv. Willd.).

The Javanese medical men, according to Horsfield, in his account of the Medicinal Plants of Java, consider the bark of the *tshomorro* amongst their mild astringents. The tree is very lofty and beautiful, and

may be found described by Rumphius (iii. t. 57.), under the name of c. littorea. The *leaves*, if they may be so called, or rather branchlets, hang down in bunches from twelve to eighteen inches in length, like a horse's tail, a peculiarity which sometimes gets the tree the name of the horse-tail casuarina (Smith). It would appear to be a native of the islands of the Pacific Ocean, as well as of Java and the East Indies. It grows on Ceylon, and may also be seen in the botanical garden of Calcutta, whither it was brought by Colonel Paterson from the South-sea islands; five other species of this genus have a place in the Hortus Bengalensis (See work, p. 66.).

CCCXC.

TURKOLUM தகதேகொடம (Tam. and Tel.) also *Takkelam* (Tam.) *Jamoun ké dundi our tockem* جامون كي دندي اور تخم (Duk.) *Turkolum* (Sans.) *Jambolana tree.*

CALYPTRANTHES JAMBOLANA?

Cl. and Ord. Icosandria Monogynia. Nat. Ord. Hesperideæ. *Ausgerandete Deckelmyrte* (Nom. Triv. Willd.).

Turkolum is the Tamool name of certain small, dried, pleasant-tasted flowers and capsules, found in the medicine bazars of Lower India, and which the *Vytians* consider as cooling and sudorific, and prescribe them accordingly. Dr. Rottler believed that they were obtained from the calyptranthes jambolana, but was not altogether certain. This is a middle-sized tree, with spreading *branches*, the smaller ones brachiate; *leaves* opposite, ovate-emarginate; *flowers*

terminating; *fruit* ovate-oblong, about the size of an orange, dark-coloured, sweetish, esculent. Loureiro notices the species under the scientific appellation of jambolifera odorata; it is the *rau-ton* of the Cochin-Chinese, who often mix the pleasant-tasted leaves with salad (See Flor. Cochin-Chin. vol. i. p. 231.). The calyptranthes jambolona may be found described by Rumphius under the name *jambolana* (Amb. i. t. 42.). It is, moreover, a native of Ceylon, and called by the Cyngalese *alu-bo-dan*.

CCCXCI.

TYRE தயிர் (Tam.) *Dhyn* دهن (Duk.) *Perooghoo* (Tel.) *Dadhi* दधि (Sans.).

I have already noticed this article at pages 220 and 460 of the first volume of this work. It is invariably ordered as a diet by the Mahometan medical men for such as have the body heated from the irritation of an over-secreted and acrid bile.

CCCXCII.

TURYAK ABIZ تریاک ابیض (Arab.).

This is the name of a root which I find mentioned by Forskāl, in his Materia Medica Kahirina, as possessing alterative and antirheumatic qualities, but it does not appear that it has as yet been ascertained what it is. I merely notice it here to add a hope that it may soon be more particularly inquired after.

CCCXCIII.

VAIVELUNGHUM வாய்விளங்கம் (Tam. and Tel.) *Bāibarung* بايبرنگ (Duk.) *Valungha* (Sans.)

This is a small, round, brown seed, about the size of black pepper, and which, in its dry state, appears to have but little sensible taste or smell. The powder of it, in conjunction with certain aromatics, is prescribed as a gentle restrainer in flux cases. I have not been able to ascertain from what plant it is obtained.

CCCXCIV.

VAKANATIE PUTTAY வகனதிபுடை (Tam.)

This bark, as it appears in the bazars of Lower India, is somewhat warm to the taste, and in a slight degree acrid; the powder of it, in conjunction with gingilie oil, is occasionally used as a stimulating application in rheumatic affections. Plant unknown to Europeans.

CCCXCV.

VALULUVY-ARISEE வாலுவரிசி (Tam.) *Mal kunghinie* مال كنكني (Duk.) *Bavunjie* (Tel.) *Bācochie* (Sans.) *Valuluvy seed.*

This very bitter and brownish seed is prescribed, in conjunction with other ingredients, in cases requiring stomachics, and in those diarrhœas that are supposed to arise from want of tone in the abdominal viscera. I have never seen the plant.

CCCXCVI.

VALUMBIRIKAI வலம்பிரிக்காய (Tam.) *Merowrie* مروڑي (Hind.) *Valumbrikaca* (Tel.) *Avurtunnie* (Sans.) *Capsule of the great-fruited Screw-tree,* or *Hazel-leaved Helecteres.*

HELICTERES ISORA (Lin.).

Cl. and Ord. Monadelphia Dodecandria. Nat. Ord. Colomniferæ. *Haselnussblattriger Schraubenbaum* (Nom. Triv. Willd.).

This is a singular-looking contorted capsule, consisting of five fibres closely twisted together, in the form of a screw. It is of various lengths, from one inch to two and a half. The *Vytians* prepare a liniment with the powder of it, which is supposed to be a valuable application, in cases of offensive sores inside of the ears; it is usually mixed with a good portion

of castor-oil. The plant is the *isora murri* of Rheed. (Mal. vi. p. 55. t. 30.), it is the *fructus regis* (Rumph. Amb. vii. p. 32.), and is somewhat differently described by Jaquin and Brown * (Jam. 330.). The first tells us, that it is a small upright tree about twelve feet high, with *leaves* alternate, petioled, acute; *peduncles* many-flowered and terminating; *calyx* subcampanulate, unequally five-toothed; *petals* white, obtuse, reflex; *capsules* twisted spirally into an ovate fruit; *seeds* angular, ovate. The Helecteres isora is the *liniya-gaha* of the Cyngalese, and has a place in the Hortus Bengalensis; it is a native of Jamaica as well as Malabar, and Sloane speaks of the juice of the root having virtues in empyema and stomach affections. The leaves, in Jamaica, are employed for making decoctions for glysters. See Hortus Jamaicensis.

CCCXCVII.

VALLE-KARA വലകര (Hort. Mal.).

This is the Malealie name of a tree, which grows on the Malabar coast near Cochin; the seed of which, boiled with saffron and oil, Rheede informs us, is said to be an efficacious remedy for preventing fatal consequences from the bite of a mad dog, provided it is timely administered (Hort. Mal. part ix. p. 143.).

* Also by Roxburgh, in his Flora Indica (MSS.), who tells us, that the plant is called *ky-wallah-nara* by the Malabars of Wynad, and that the strong fibres of the bark of the twigs are employed for making cordage and twine.

CCCXCVIII.

VARAPOOLA VAYR வரபூலவாயர் (Tam.) *Saffaid Muhammad* سفيد محمد (Duk.) *Tella Poolugoodu vayroo* (Tellingoo). *Sweta cāmbōjī* श्वेतकाम्बोजी (Sans.) *Root of the Fluggea Leucopyrus.*

FLUGGEA LEUCOPYRUS (Willd.)?

This is a pleasant-tasted root, found occasionally in the medicine bazars of Lower India, and which the *Vytians* rank amongst their mild astringents; the small round whitish-coloured fruit is a little bitter to the taste, and is eaten by the poor. I have never seen the plant, but give the botanical appellation on the authority of Dr. Rottler; the dose of the powdered root is said to be about a pagoda weight given twice daily.

The plant is of the Cl. and Ord. Diœcia Pentandria, Nat. Ord. Tricoccæ, and would appear to have been first particularly noticed by Dr. Klein of Tranquebar, who transmitted it to Willdenow, and may be found well described in vol. iv. p. 757. of his Spec. Plant.; of it he says, "*Folia* alterna, quadrilinearia, orbiculato-obovata petiolata, integerrima glabra; *flores* axillares, pedunculati, parvi. MASCULI. *Calyx* pentaphyllus; *corolla* nulla; *filamenta* 5 subulata calyce duplo longiora. FEMINEI. *Calyx* et *corolla* maris; *germen* ovatum; *bacca* globosa nivia tetrasperma, semina triquetra, externe, convexa axillata." Willdenow named the genus, of which there is but one species (our article), after the celebrated botanist *Flugge*.

CCCXCIX.

VATUNGHE CUTTAY வதுங்கேகடை also *Patinga cuttay* (Tam.) *Tsiapangum* (Malealie). *Caju Sappan* (Malay). *Bukum* بقم (Arab.) *Patangee* (Cyng.) *Patanga* पतंग (Sans.) *Narrow-leaved Sappan.*

Cæsalpinia Sappan (Lin.)

Cl. and Ord. Decandria Monogynia. Nat. Ord. Lomentaceæ.

The *Vytians* consider a decoction of this wood as a powerful emmenagogue; a virtue, I perceive, it is also supposed to possess by the Cochin-Chinese; in whose country the tree grows in great abundance, and is called by the natives *cay-vang* also *to-mouc.* It is the *tsiapangam* of Rheede (Mal. vi. p. 3. t. 2.), and the lignum sappan of Rumph. (Amb. iv. p. 56. t. 21.)

The cæsalpinia sappan is a middling-sized tree, having many short recurved prickles on it; *leaves* alternate, unequally bipinnate, consisting of twelve pairs of small emarginate sessile leaflets; *flowers* yellow, sweet-scented, in loose terminating racemes; the *legume* is somewhat woody, ovate-rhomboidal, beaked, brown, smooth; the *seeds* three, turbinate-oblong, horny. (Flor. Cochin-Chin. vol. i. p. 262.) But the reader may find a fuller and somewhat differing account of the tree in Roxburgh's Coromandel Plants (1. t. 16.) It would appear, that it grows in Sumatra*, and in Pegu; on Ceylon two varieties are

* See Marsden's Sumatra, p. 78.

common, a red (ratu), and a white (ela); it is the only species of the genus that is found in the island, except the *mimosoides*, which is the *coda-wawul-ætiya* of the Cyngalese. No less than fourteen species have a place in the Hortus Bengalensis, one of which is our article, called in Bengalese *bukum*; the same name, by the way, that is given to it by the Arab writer *Abulfaldi* (apud Cels. 176.)

With regard to the use of the wood as a red-dye, notice shall be taken in another part of this work.

CCCC.

VAYLEE (Tam.) *Vaivinta*, also *Wawinti* (Tel.) *Hurhuriya* (Beng.) *Caraila* (Hind. and Beng.) *Hoolhool* هلهل (Duk.) *Caravella* कारवेल्ल also *Varvar* वर्वरा (Sans.) *Five-leaved Cleome*.

CLEOME PENTAPHILLA (Lin.)

Cl. and Ord. Tetradynamia Siliquosa. Nat. Ord. Capparides (Juss.) *Funf-blattrige Cleome* (Nom. Triv. Willd.)

The *leaves* of this plant (which is sometimes called *nellei vaylie*, to distinguish it from the *nahivaylie*, Tam., *cleome viscosa*), on the stem and branches are all quinate; "the *leaflets* obovate acute, very finely serrate. It is a beautiful upright annual, generally smooth, but sometimes there are a few hairs at the bottom." Loureiro has described it in his Flora Cochin-Chin. (vol. ii. p. 397.), and tells us, that the Cochin-Chinese call it *man-man-tia*; of it he says, "*Flos* albicans, spica longa, erecta, terminali; *calyx*

inferus, 4-phillus; foliolis oblongis, erectis, deciduis; *corolla* petala 4-rotunda, inæqualia, patentia; *filamenta* 6-longa, filiforma; *pericarpium* siliqua 3-policaris, seminibus plurimus."

The small, numerous, warmish, kidney-formed black seeds, as well as leaves of this plant, are administered in decoction in convulsive affections and typhus fever, to the quantity of half a tea-cupful twice daily.

The cleome pentaphylla appears to be the *carraveela* of Rheede (Mal. ix. p. 43. t. 24.), I find it has a place, according to Dr. Heyne*, in the Tellingoo Medical Sastrum, entitled *Kalpastanum*; where another species, viscosa (*Shunacabarbara*, Sans.), is also noticed. The Cyngalese physicians use our article for nearly the same purposes that the *Vytians* do, and have bestowed on it the name of *awusadawela-kola*. Seven species of cleome have a place in Moon's Catalogue of Ceylon Plants; five are in the Hortus Bengalensis.

Since writing the above I have seen the Flora Indica of Roxburgh (manuscript copy), in which this plant is rather differently described; he says, the leaves are eaten by the natives.

CCCCI.

VAYLIE PARTIE வேலிபருதி (Tam.), also *Ootamunnie* (Tam.) *Utrun* اترن (Duk.) *Zootupakoo* (Tel.) *Yugaphala* युगफल (Sans.) *Hairy-flowered Cynanchum.*

CYNANCHUM EXTENSUM (Lin.)

* Heyne's Tracts on India, pp. 130. and 136.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Apocineæ (Juss.). *Ausgebreiteter Hundswurger* (Nom. Triv. Willd.)

A decoction of the *leaves* of this plant is given to children as an anthelmintic, in doses not exceeding three table-spoonfuls; the juice of the leaves is ordered in asthma. A long description of the plant has been given by Jaquin. I shall merely here observe, that it is a beautiful twining plant, rising from an annual, whitish, fibrous root, which is about a foot and a half long; but let Willdenow speak, "Caule volubili frutescente, foliis cordatis acutis, pedunculis elongatis, pedicellis filiformibus, corollis margine *hirsutis*, folliculis ramentaceis." The plant is a native of the Coromandel coast. On referring to the Hortus Bengalensis for the cynanchum extensum, I perceive he directs his reader to asclepias echinata, the Hindoostanie name of which is *sagwanee*, and the Tellingoo *jutuga*. Altogether I fear there is a little confusion regarding the *vaylie partie*, the scientific name of which I gave on the authority of my much respected friend Dr. Rottler of Madras,

CCCCII.

VAYPUM PUTTAY வேப்பம்பட்டை (Tam.) *Nim* (Hind. and Beng.) *Neem ke chawl* نيم كي چهال (Duk.) *Vaympa putta* (Tel.) *Neem* (Mahratta). *Bewa* (Can.) *Tel-kohomba* (Cyng.), also *Nimba* (Cyng.) *Aria-bepou* (Rheede, Mal. iv. p. 107. t. 52.) *Nimba* निम्ब (Sans.) *Bark of the Margosa Tree.*

Melia Azadirachta (Lin.)

Cl. and Ord. Decandria Monogynia. Nat. Ord. Meliæ (Juss.) *Grosblattriger Zedrach* (Nom. Triv. Willd.)

This bark is bitter and astringent, and by no means unpleasant to the taste: it is considered by the native practitioners as amongst their most valuable Tonics. They generally prescribe it in powder or in decoction, in conjunction with some aromatic, in fevers, and also in chronic rheumatism; in fact, it is ordered for almost every purpose that the cinchona is in Europe. Dr. D. White, late Superintending Surgeon on the Bombay establishment, informed me, that from the bark of the *vaypum mărum* he witnessed success nearly equal to what might have been expected from the cinchona officinalis. It would appear to be somewhat similar in its effects to the *cornus florida*, or great-flowered dogwood of Virginia, which many think little inferior to the true bark; Barton says, that their sensible qualities, their chemical analysis, and their action on the dead fibre, prove an identity in their medical virtues. Dr. Gregg gave the powder of the cornus florida in doses of thirty-five grains. Dr. Walker, who made it a subject of his inaugural dissertation, observes, that he found it equal to the Peruvian bark, given with other bitters, as a stomachic. See Barton's Materia Medica of the United States (vol. i. pp. 51, 52, 53.)

Our article is called by the Javanese *imba*; the bark they consider as a valuable anthelmintic; the leaves are vulnerary, vermifuge, and, to a certain degree, diuretic; and the tree yields much gum. From the fruit, which, when full-grown, is not unlike a small French olive, a most valuable, bitter, fixed oil is prepared, which is not only justly esteemed as a good worm medicine, but is much prized as an exter-

nal application in cases of foul ulcer; it is also used as a liniment in rheumatic and spasmodic affections, and in those violent head-aches brought on by the rays of the sun. Taken before exposure to cold and wet it is supposed to have the effect of preventing fever or catarrh. The small white flowers are supposed to have virtues in cholera morbus. There is, besides, a sort of toddy obtained from healthy young margosa trees, which is occasionally prescribed by the *Vytians* as a stomachic; of this toddy, *vaypum kulloo* (Tam.), the dose is an ounce and a half every morning; of the decoction of the bark itself the dose is about half a tea-cupful twice daily.

Dr. Fleming, in his Catalogue of Indian Medicinal Plants (p. 26.), notices two species of melia, having nearly similar virtues, the m. azadirachta and the m. sempervirens:* he states, that the leaves of both have a bitter taste (devoid of astringency); the decoction of them is used internally in cases in which tonic and stomachic bitters are required, and they are moreover employed externally as discutients and emollients. In the Transactions of the Medical and Physical Society of Calcutta (vol. i. p. 123.) may be seen a case of hysteria distinctly detailed by G. Skipton, Esq., in which a decoction of the leaves of the melia azadirachta was given with the happiest effect. Five species of melia grow on Ceylon. Five have also a place in the Hortus Bengalensis. The species azedarach is a native of Japan, and called by the natives by the names of *din*, *oots*, or *sedan*; this species is also a native of Cochin-China, and named in that country *cay-sau-dau*: the medical men

* Which is in Hindoostanie *bacain*, and in Sanscrit *mahā nimba*.

there consider it as anthelmintic, but give it cautiously internally: "quia nimia dosi vertiginem, et convulsiones affert." (Flor. Cochin-Chin. vol. i. p. 269.)

Now it may be full time to observe, that the melia azadirachta is a large and beautiful tree, common in most parts of India; *trunk* often crooked, but thick; *wood* of a pale yellow, and the bark of a dark-purple colour; the *branches* extend very wide; the *leaves* are scattered about the extremities of the branches, and are from one to two inches long; *leaflets* opposite, or nearly so, about six pair, sickle-lanced, serrate, of a light-green colour, and not of an unpleasant odour. As Miller states, "the flowers, which are small, white, and fragrant, are produced on long branching panicles from the side of the branches; the fruit (drupe) is kidney-formed, at first green, then turning yellow, and at last changing to a purple." *

I have no doubt but that a vegetable alkali, similar perhaps to that got from the yellow cinchona bark (quinine), might be obtained from the bark of melia azadirachta; it certainly would be worth a trial: it, for this purpose, should be boiled in alcohol till it loses its bitter taste; evaporate to dryness; dissolve the extract thus procured in boiling water, strongly acidulated with hydro-chloric acid; to this add magnesia in excess, which, after a few minutes' boiling, will fix the red matter and clear the liquor; when cold, filter and wash the magnesian precipitate with cold water; dry it on a stove; digest in boiling alcohol till all the bitter principle is separated; mix the alcoholic liquors, and the vegetable alkali, of whatever

* From Roxburgh's Flora Indica (MSS.), we learn that the wood is hard, durable, and fit for ship-building, and esteemed next in quality to the mimosa Arabica on the Coromandel coast.

nature, will separate as it cools: this is the mode ordered by Magendie for preparing the quinine from the yellow bark, and would in all probability answer for the margosa bark. I may take this opportunity of noticing the increasing high character of *quinine*, not only as a febrifuge, but as a stomachic: the following formula, as ordered by Dr. Burnet of London, was of the greatest service in a case of dyspepsia, accompanied with hepatic derangement, for which the nitro-muriatic bath had been prescribed:

℞	Sulphatis quinæ	- -	gtt. ij.
	Acid. sulph. dilut.	- -	gtt. ij.
	Spirit. myristicæ	- -	ʒi.
	Aquæ distillatæ	- -	ʒx.

Misce, fiat haustus; to be taken daily at mid-day.

CCCCIII.

VAYMBADUM PUTTAY வேம்பாடம்பட்டை (Tam.) *Sooroogh oodu putta* (Tel.) *Raktavalli* रक्तवल्ली (Sans.) *Vaymbadum Bark.*

The powder of this dark-coloured and pleasant tasted bark, in conjunction with gingilie oil, is sometimes used as an external application for the itch, and other cutaneous eruptions; but the chief use of it appears to be as a reddish-brown dye, the tint of which is fixed by means of *kadukai* and *paddicarum* (chebulic myrobolan and alum). What the root is, I have not been able to ascertain.

CCCCIV.

VAYPUM UNNAY வேப்பமெண்ணை (Tam.) *Margosa Oil.*

See article *Vaypum Puttay.*

CCCCV.

VEDITTALUNG KOLINDOO வெடிதலை சுகோமொந்து (Tam.) *Vurtulika kāungla pawt* وڑتلي کاکولا پاٹ (Hind.) *Vellitooroo konaloo* (Tel.), also *Yettroo* (Tel.) *Vīravriksha* वीरवृक्ष (Sans.) *Young Shoots of the Ash-coloured Mimosa.*

Mimosa Cinerea (Lin.)
Desmanthus Cinereus (Willd.)

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Leguminosæ (Juss.) *Grauer Buschelzopf* (Nom. Triv. Willd.)

These young shoots are of a cooling nature, and are bruised and applied to the eyes in cases of ophthalmia.

The minosa cinerea (Lin.), or, as it has been called by Willdenow, desmanthus cinereus, is a prickly tree, with an even-branched *stem ; leaves*, bipinnate ; and flowers in spikes. (Flor. Zeyl. 215.) It would seem to be a native of most of the West India Islands ; where, Browne tells us, that the leaves are frequently mixed with corn for the riding horses, and it is thought to free them from both bots and

worms; it also grows in Ceylon, by Moon's account, but he has affixed no Cyngalese name. (Catalogue p. 73.)

This tree is described at great length by Dr. Roxburgh, in his Flora Indica, MSS., as also in his Cor. Plants, xi. No. 174.; he mentions the hardness of the wood.

CCCCVI.

VEELVIE ELLEY வேலம்இலை (Tam.) *Bel kā pāt* بیل کا پات (Duk.) *Bilva-akoo* (Tel.) *Vilwa-patra* विल्वपत्र (Sans.) *Leaf of the Religious Cratæva.*

Cratæva Religiosa (Vahl.)

Cl. and Ord. Dodecandria Monogynia. Nat. Ord. Putamineæ. *Lanzettenblattrige Cratæve* (Nom. Triv. Willd.)

The leaves of the cratæva religiosa are somewhat aromatic, in a slight degree bitter, and are considered by the native practitioners as stomachic. The root, as it appears in the bazars, has a singular subaromatic and bitterish taste, and is supposed to possess an alterative quality.

With regard to another species, marmelos*, the ægle marmelos (Lin.), the very glutinous transparent juice, which is found round the small white seeds, contained within the hard shell of the fruit, has much the smell of turpentine, and tastes warmish, not unlike balsam of Peru; the *Vytians* use it for cleaning foul ulcers; it is, in other respects, a

* It is also, when boiled in gingilie oil, employed in cases of ozena.

substance which, I fear, has not yet sufficiently been examined. More will be said of the paste of the fruit, and of its use in the arts, in another part and volume of this work.

Our article is the leaf of the *niivala* of Rheede (Mal. iii. p. 49. t. 42.), and the *lunu-warna* of the Cyngalese: the plant is a native of India and Otaheite*; and usually rises to the height of about twenty feet, with an upright *trunk*, and spreading branches; *leaves* scattered at the end of the branches; and *leaflets* and petals lanceolate-elliptic, acute at both ends; *flowers* an inch and a half in diameter, greenish-white, with red stamens (Miller).

CCCCVII.

VELLUM (Tam.), also in Tamool *Nulla vellum*.† *Goor* (Duk.) *Bellum* (Tel.) *Kund* (Arab.) *Guda*, or *Gura* गुड also *Matsyandi* मत्स्यण्डि (Sans.) *Jaggary*, or *Coarse Sugar*.

Saccharum Officinarum (Lin.)

See article Sugar, in vol. i. p. 407.

As sugar in India is obtained not only from the sugar-cane, but from cocoa-nut and Palmyra toddy, so it naturally follows that *jaggaries*, or coarse sugars, must be procured from the same toddies; they are used by the *Vytians* for medicinal purposes, and also by the natives to sweeten their drinks. The jaggary of the Palmyra tree toddy is called in Tamool karapootie.

* Where the fruit is called *pura-au*.

† Nulla vellum is, properly speaking, the jaggery of the sugar-cane, and is so called from being the best.

CCCCVIII.

VELLIE EEUM வெள்ளீயம் (Tam.) رصاص, also قلعي *Kula-é* (Arab.) *Pewter.*

This the *Vytians* use in the preparation of *Shadilingum*, which article see, in this part and volume. The literal meaning of *vellie eeum* is silver lead; in the same way that the Arabians sometimes call it رصاص ابيض *rusas abeez*, or white tin.

CCCCIX.

VENI-VELL-GETTA (Cyng.).

MENISPERMUM FENESTRATUM (Gært.)
COSCINIUM FENESTRATUM (Colebrooke).

This is a large Ceylon tree, having a yellow, bitter wood, and leaves alternate, petioled, and entire; the natives consider the wood*, sliced small, as a valuable bitter.

CCCCX.

VEPPALEI வேப்பாலை (Tam.) *Codagapala* (Mal.) *Pala codija*, also *Manoopala* (Tel.) *Curayja* كرايجا (Hind.) *Kutaja* कुटज (Sans.) *Oval-leaved Rosebay.*

NERIUM ANTIDYSENTERICUM (Lin.)

* See a paper by Mr. Colebrooke on the Indian species of menispermum, in the Transactions of the Linnæan Society, vol. xiii. pp. 65, 66.

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Apocineæ (Juss.) *Ruchstillender Oleander* (Nom. Triv. Willd.)

The *bark* of this tree is lately admitted into the British Materia Medica, under the appellation of *connessi bark*. On the Malabar coast it is called *palla patah;* and by the Portuguese *corte de pala*, who consider it as a valuable febrifuge medicine. On the Coromandel coast it seems chiefly to be given in dysenteric affections, and is commonly administered in decoction, in the quantity of an ounce and a half or two ounces twice daily. The bark is of a reddish-brown colour, astringent, and bitter, and has been much vaunted by Rheede (Mal. i. p. 85. t. 47.) and others in dysenteric affections. In Cochin-China, where the tree is termed *cay-mok-hoa-tlang*, it would appear, by Loureiro's account, that it is chiefly prized for its beautiful white wood, which is of a fine grain, and fit for making furniture; with regard to the medicinal properties, for which the bark of the tree is so much in repute, he adds, "De virtute arboris, antidysenterica testari, non audeo experientia destitutus." I perceive it is noticed by Alibert in his "Nouveaux Elémens de Thérapeutique," vol. i. p. 112., and an electuary of it recommended. Virey* also speaks of it under the appellation of *cropal*, observing, that it is eminently antidysenteric and febrifuge.

The seeds, which in Tamool have got the name of *veppalei arisee*, in Persian that of اهر, or احر, *ahir*, in Arabic *lissan-ul-usafeer*, and in Dukhanie and Hindoostanie اندرجو *anderjou*, have a pleasant taste, not unlike that of oats, which they also resemble in

* See his "Histoire Naturelle des Medicamens," p. 188.

appearance; they are contained in round, slender follicles, each about eight inches long, two of which often joined at both ends; an infusion of them, they being previously toasted, is a safe and gentle restrainer in bowel complaints, and is given to allay the irritation of the stomach in cholera morbus; a decoction of them, Rheede tells us, is also employed in ardent fever and gout. Roxburgh makes our article belong to a different genus, from the circumstances of its seeds being covered with a kind of coma or hair, and the form of the corolla, which is "*infundibulif. fauce nuda,*" while that of the other is "*tubus terminatus corona lacera.*" The nerium antidysentericum "is a middle-sized tree, with brachiate *branches; leaves* opposite, oblong-ovate; and *flowers* of a greenish white, in short terminating racemes; the *fruit* has already been described."

CCCCXI.

VERRUGHUNG KALUNG வேரகங்கிழங்கு (Tam.) *Balloorakashie gudda, Abara,* also *Habarala* (Cyng.) *Ape* (Otaheite). *Hastid Carnid* हस्ति कर्णि (Sans.) *Long-rooted Arum.*

ARUM MACRORHIZON (Lin.)

Cl. and Ord. Monœcia Polyandria. Nat. Ord. Aroideæ (Juss.) *Grosswurzlicher Aron* (Nom. Triv. Willd.)

This root, in its raw state, like most of the arums, possesses a degree of acrimony; in conjunction with gingilie oil, the native practitioners prepare a kind of liniment with it, which, they allege, when rubbed on

the head, sometimes cures intermittent fevers after every other remedy has failed. When dressed the *verrughung kalung* is eaten, but is far inferior to the root of the *arum esculentum* (Lin.), which is the caladium esculentum (Willd.), and to be noticed in another part of this work. Our article is the *dea-vew* of the Chinese, and the *kappe* of the Sandwich Islands; it is a large *root*, about the thickness and length of a man's arm; the *leaves* also are large and wide, peltate, cordate, two-parted at the base; the *flower* is white and very sweet; the *spathe* cowled and short; and the *berries* roundish and red (*Loureiro*, *Foster*, and *Ray*). On Ceylon they distinguish no less than four varieties of the plant, the white, black, spotted, and variegated. (Moon's Catalogue of Ceylon Plants, p. 64.) Roques, in his Phytographie Medicale (vol. i. p. 65.), speaks of both the arum dracunculus and arum maculatum as poisonous.

CCCCXII.

VESHEI MOONGHIE ELLEY வேஷமூங்கிலை (Tam.) *Sookh-dursum* (Hind.) *Vesha-mangalupakoo* (Tel.) *Belutta pola-taly* (Rheed.*) سکھدرسن (Duk.) *Heentolabo* (Cyng.) *Vishaman-dala* विषमण्डल (Sans.) *Asiatic Crinum.*

CRINUM ASIATICUM† (Lin.)

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Narcissi (Juss.) *Asiatische Hakenlilie* (Nom. Triv. Willd.)

* Mal. vol. ii. t. 38.

† The plant may be found admirably described by Dr. Roxburgh, in his Flora Indica, MSS.

The succulent bitterish leaves of this plant, which are about two inches broad and three feet long, the natives bruise and mix with a little castor-oil, so forming an application which they think useful for repelling whitlows, and other inflammations that come at the end of the toes and fingers; the juice of the leaves is employed for the ear-ache in Upper India. On Java, by Horsfield's account, this plant is reckoned one of the most satisfactory emetics the inhabitants have. Rumphius, who calls it radix toxicaria (Amb. ii. p. 155. t. 69.), speaks highly of its virtues in curing the disease occasioned by the poisoned arrows of the Macassers in their wars; it is the root chewed that is the emetic, provided a little of the juice is swallowed. The crinum Asiaticum is the *man-sȳ-lan* of the Cochin-Chinese, and its virtues may be found lauded by Loureiro. (Flor. Cochin-Chin. vol. i. p. 198.) It is a native of Malabar, Java, Ceylon, and America. The *stem* is short, thick, coated, white and single; the *root* is solid, turbinate, surrounded with long branching fibres; the leaves have already been mentioned; the flowers are white, large, in a simple flat umbel (Loureiro). The species foxicarum (Roxb.) is the mahatolabo of the Cyngalese.

CCCCXIII.

VETTILEI வெற்றிலை (Tam.) *Pān* پان (Duk.) *Tanbool* تانبول (Arab. Avicen. 263.) *Barg tāmbool* برگ تامبول (Pers.) *Pan* پان (Hind.) *Tamalap-akoo* (Tel.) *Tāmbūlī* ताम्बुली (Sans.) *Betel leaf.*

PIPER BETLE (Lin.)

Cl. and Ord. Diandria Digynia. Nat. Ord. Piperitæ. *Betle Pfeffer* (Nom. Triv. Willd.)

The warm juice of the betel leaf is prescribed by the *Vytians* as a febrifuge, in the quantity of a small spoonful twice daily; it is also given in the indigestions of children; and, in conjunction with musk, in cases of hysteria. The leaf, which the Javanese call *suroo*, is chewed in most Eastern countries in the way that tobacco is in Europe. The Malays term it *sireh*, the Ternatese *bido*, the Balinese *base;* at Amboyna they distinguish it by the name of *amo*. The vine itself is the *betala-codi* of Rheede (Mal. vii. p. 29. t. 15.), and the *tanbool* تانبول of Avicenna* (263.)

The plant, according to Roxburgh's description, is perennial, dicœcous, creeping; *leaves*, alternate, bifareous, cordate, from five to seven-nerved, smooth, entire, female *aments*, subcylindric, drooping; the *root* and *stem* woody (Flora Indica, vol. i. p. 160.) The piper betle has got the name of *bulat wæla* on Ceylon, where no less than seven species are distinguished; it is the *caytlau* of the Cochin-Chinese, who reckon the leaf "califaciens, stomachica, balsamica, vulneraria" (Flor. Cochin-Chin. vol. i. p. 32.)

CCCCXIV.

VIDI MARAM (Tam.) (Rheede Mal. iv. t. 37.) *Kendal* (Jav.) *Lebuck* لبخ (Avicen.) *Mochayet* مخيط (Forskāl). *Lolu* (Cyng.) *Buhooarie* (Beng.) *Lesura* (Hind.) *Nekra* (Tel.) *Būkampadāruka* भूकम्पदारुक (Sans.) *Smooth-leaved Myxa.*

Cordia Myxa.

* See Hist. Rei Herbar. Springel.

Cl. and Ord. Pentandria Monogynia. Nat Ord. Borragineæ. *Schwarze Cordie* (Nom. Triv. Willd.)

This is, by Roxburgh's account, "a pretty large tree, growing in the Circars; *trunk* about twelve feet high, crooked; *bark* grey; *branches* numerous, spreading, affording a dense shade; *leaves* scattered, petioled, ovate, oval, or obovate; *bractes* none; *flowers* small, white; *drupe* globular, smooth, the size of a cherry, when ripe yellow, pulp almost transparent, tough and viscid; nut cordate; seeds solitary; smell of the nut when cut is heavy and disagreeable; taste of the kernels like that of fresh filberts;" he adds, "the fruit not used in the Circars for medical purposes; when ripe it is eaten by the natives" (Flora Indica, MSS.)

The cordia myxia was known to some of the old writers on the Materia Medica, by the name of *sebesten;* the dried fruit is occasionally brought to Europe, but, as Horsfield * observes, generally in a damaged and worm-eaten state; that writer adds, that it yields on maceration a plentiful mucilage, of an emollient nature, useful in diseases of the breast and the urethra. The fruit is gently aperient; ten or twelve drachms of the pulp have the same effect as the same quantity of the pulp of cassia. The bark is a mild tonic, and is one of the chief remedies of the Javanese in fever cases. The wood itself is tough and solid, and is employed for procuring fire by friction. I perceive the species sebestena is in the list of medicinal plants, given by Dr. Heyne, in his Tracts Historical and Statistical of India, p. 135.; its Tellingoo names are *shaeshtmantaka* and *tenkay*.

* See his account of the medicinal plants of Java, in the Asiatic Journal for February 1819, p. 149.

CCCCXV.

VISTNOOKRANDIE விஷ்ணுகரந்தி (Tam.) *Vistnookrandum* (Tel.) *Wisnu kranti* (Cyng.) *Vaishnava* वैष्णव (Sans.) *Chickweed-leaved Evolvulus.*

EVOLVULUS ALSINOIDES (Lin.)

Cl. and Ord. Pentandria Tetragynia. Nat. Ord. Convolvuli (Juss.) *Vogelmierartliger Evolvulus* (Nom. Triv. Willd.)

The leaves, stalks, and root of this low-growing plant, are all used in medicine by the Tamools, and are supposed to possess virtues in certain bowel affections; they are prescribed in infusion, in the quantity of half a tea-cupful twice daily. The species in question, with two others, are growing in Ceylon. I find two grow in the botanical garden at Calcutta; our article, introduced by General Hardwick, and the evol. pilosus (Roxb.) introduced by Sir A. Hesleridge.

The evolvulus alsinoides is a little annual plant with a creeping root; the stems, leaves, and peduncles are covered with rufous hairs; "leaves obcordate, obtuse, hairy, petioled, stem diffuse, peduncles three-flowered" (Flor. Zeylan. 76.) Our article is described by Dr. Roxburgh, in his Flora Indica (MSS.), with his usual intelligence; he says, it has scarce any stem, alternate, bifarious, subsessile, oblong *leaves;* and *peduncles* axillary, solitary, and longer than the leaves.

CCCCXVI.

VILPALEI (Tam.) *Milky Swallow-wort.*

ASCLEPIAS LACTIFERA (Lin.)

Cl. and Ord. Pentandria Digynia. Nat. Ord. Contortæ. *Milchende Schwalbenwurz* (Nom. Triv. Willd.)

The root of this species of asclepias I found mentioned in a list of medicines, presented to me by a learned *Vytian ;* but what its particular virtues are I had no opportunity of ascertaining. I perceive the plant grows in Ceylon, but Mr. Moon has affixed no native name to it ; it does not appear to be in the botanical garden of Calcutta, where twenty species of this genus are noticed. Miller, in his Dictionary says, it is so like the common or officinal swallow-wort, *asclepias vincetoxicum*, that it is difficult to distinguish the one from the other ; of it Willdenow says, "Foliis ovatis acuminatis margine tenuissime ciliatis, caule erecto, umbellis proliferis." The root of the common swallow-wort was formerly used in medicine, and suspected to have alexipharmic properties ; but it is now out of use and perhaps deservedly. It is touched very cautiously by any animal, and is suspected of being poisonous ; it might become a subject of more minute inquiry in these more enlightened days, when even poisons are turned to good account.

CCCCXVII.

VITTIE VAYR வெட்டிவேர் (Tam.) *Bala* بالہ (Duk.) *Cooroo vayroo* (Tel.) *Khus* خس (Pers.) *Useer* اسبر (Hind.) *Vīratara* वीरतर (Sans.) *Cuscus Root.*

ANDROPOGON MURICATUS (Retz.)

Cl. and Ord. Triandria Digynia. Nat. Ord. Gramina.

An infusion of this fragrant-smelling root, the *Vytians* consider as diaphoretic and gently stimulant, in the quantity of a quarter of a tea-cupful twice daily; and prescribe it more diluted as a grateful drink in certain fever cases. It is made into fans by the natives; and after being thinly worked into large bamboo frames, and watered, is also employed for the purpose of cooling the land wind; which, on passing through the wetted roots, is lowered many degrees in temperature, owing to the evaporation that is produced.

The plant in Bengalie is called *bena*; it is common in most parts of India, but likes best a low rich soil. It may be found accurately described by Roxburgh (Flor. Indica, vol. i. p. 270.) *Root* consists of many perennial, long, spongy, brown fibres; *culms* many, smooth, simple rigid, a little compressed at the base, from four to six feet high, and as thick as a goose-quill; leaves, near the base bifarious, narrow, erect, from two to three feet long; *flowers* paired, awnless; they are hermaphrodite and male. Eight species of andropogon grow in Ceylon, but our article

is not amongst them. In the Flora Indica no less than thirty-five species are described by Dr. Roxburgh. The grass itself the Tamools call *vakil* and the Tellingoos *kassavoo*.

CCCCXVIII.

VUELIE VAYR வேலிவேர் (Tam.) *Veelivie vayroo* (Tel.) *Root of the Stroemia Tetrandra.*

STROEMIA TETRANDRA (Vahl.)

Cl. and Ord. Pentandria Monogynia. Nat. Ord. Putamineæ. *Vierfadige Stroemie* (Nom. Triv. Willd.)

The root and leaves of the stroemia tetrandra, which is sometimes in Tamool called *werkoodie*, are considered as deobstruent and anthelmintic, and are prescribed by the native practitioners in uterine obstructions; the first is generally ordered in decoction, in the quantity of half a tea-cupful twice daily; the juice of the latter is given in a little castor-oil.

The stroemia tetrandra has a round, branching, shrubby stem; and would appear to have been first described by Vahl, who says of it, "Foliis oblongis, mucronatis nudis, floribus petaloideis tetrandris." It is the cleome fruticosa (Lin. Spec. 937.), also Burm. Ind. 140. t. 46. f. 3. For further particulars respecting this species of stroemia, the reader may consult Spec. Plant. Willd. vol. i. pp. 993, 994. But three other species of stroemia have been hitherto particularly noticed, all natives of Arabia Felix,

viz. *farinosa*, *glandulosa*, and *rotundifolia*; our article is a native of India, and may be found by the reader most admirably described by Dr. Roxburgh, in his Flora Indica, MSS.; he tells us, that it is a large, straggling, ramous shrub, with scarce any *stem*; alternate, oblong, entire *leaves*; minute *stipules*; racemes terminal; and has several kidney-formed seeds.

CCCCXIX.

VULLAK UNNAY ஆமணக்கெண்ணெய (Tam.) *Amidum* (Tel.) *Eranda* एरण्ड (Sans.) *Lamp Oil*, or *Oil of the large-leaved Palma Christi.*

RICINUS COMMUNIS (Fruct. Major.)

This oil differs from the castor-oil in having a heavy, disagreeable smell, and a considerable degree of empyreuma; in all probability owing to the seeds being toasted previously to the operation of boiling, for the purpose of extracting the oil: it is, besides, of a darker colour, and altogether of a more gross nature. They are both prepared, however, from the fruit of the ricinus communis, with this difference, that the castor-oil is made from that variety which is distinguished *fructibus minoribus*, and the other from the variety distinguished fructibus majoribus. We are informed by Forskahl (Egypt. p. 75.) that the plant is common in Egypt, and there called عرو; it has been described under the head of Castor-oil, Vol. I. p. 255. of this work.

The lamp-oil, like the castor-oil, is of a purgative quality, but it is chiefly employed for burning in lamps.

CCCCXX.

VULLAREI வல்லாரை (Tam.), also *Babassa* (Tam. and Tel.) *Panggaga* (Jav.) *Heengotu-kola* (Cyng.) *Mandūka-parnī* मण्डूकपर्णी (Sans.), also *Bhēka-parnī* भेक पर्णी (Sans.) *Asiatic Pennywort.*

HYDROCOTYLE ASIATICA (Thunb.)

Cl. and Ord. Pentandria Digynia. Nat. Ord. Umbellatæ. *Asiatischer Waffernabel* (Nom. Triv. Willd.)

An infusion of the toasted bitter leaves of this low-growing plant, in conjunction with vendeum (fenugreek), is given to children in bowel complaints and fever cases, in doses of half a tea-cupful. It appears to be the *codagam* of Rheede (Mal. x. p. 91. t. 46.), and the *pesequinus* of Rumphius (Amb. v. p. 455. t. 169. f. 1.); in Bengalese it is called *thall-kuri.* Thunberg, in his Flora Japonica (p. 116.), notices the plant as growing at Papenberg, and called by the Japanese *sakusets*, also *kakidoro.*

The leaves are kidney-formed, toothletted, very bitter, and their substance is much thicker than that of the species *hirsuta.* The hydrocotyle Asiatica is a native of the Cape of Good Hope*, Japan, and Jamaica†, as well as of Ceylon and the Indian continent. It would appear, by Horsfield's account, that our article is also a native of Java, there called

* Burchell found it in ascending the Table land at the Cape. Travels in South Africa (vol. i. p. 42.).

† See Hortus Jamaicensis vol. ii. p. 50.

panggaga (Jav.), and considered by the medical men of that island as an excellent diuretic. The leaves, on the Coromandel coast, are applied to parts that have suffered from blows and bruises, having, it is supposed, the power of keeping off inflammation.

Our article may be found described by Dr. Roxburgh, in his Flora Indica (MSS.)

CCCCXXI.

VULLAY KAKARTANVAYR வெள்ளைகாகரட்டான்வேர் (Tam.) *Suffaidzerke ké jur* سفيدزركي كي جر (Duk.) *Ussul hubulneil abeez* اصل حب النيل ابيز (Arab.) *Tella ghentana vayroo* (Tel.) *Asphotā,* आस्फोट (Sans.) *Root of the of the winged-leaved Clitoria.*

CLITORIA TERNATEA (Lin.)
(Var. Flore Albo.)

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Leguminosæ.

The root and the small dark-coloured seeds of the winged clitoria are both used in medicine by the native practitioners: the first, in powder, is given as an emetic, in the quantity of one pagoda weight; the second are said to possess an anthelmintic quality, and to be gently purgative. One learned *Vytian* informed me, that about two drachms of the powder of the root, ground with two ounces of cow's milk, was an excellent medicine in dropsical affections, given two mornings successively. The plant in question is the *shet upurajita* of the Bengalese, a name distinguishing it from the variety with a blue

flower, which is simply *upuraiita;* this last is the flos cæruleus of Rumphius (Amb. v. p. 56. t. 31.), and the *schlonga-cuspi* of Rheede (Mal. viii. p. 69. t. 38.) The Cyngalese term the white flowered variety *nil-katarodu;* the blue they term *sudu-katarodu.* The clitoria ternatea is both wild and cultivated in Cochin-China; the natives name it *cay-dau-biec.* Of the blue flowers Loureiro says, "Succo hujus floris solent indigenæ tingera liba, aliaque edulia colore cyano, pulcherrimo quidem, sed breviter evanescente, ideoque ab imbuendas telas inepto" (Flor. Cochin-Chin. vol. ii. p. 455.) The plant seldom rises higher than four or five feet; with a twining, herbaceous stalk, and winged leaves, composed of two or three pairs of leaflets, terminated by an odd one; the flowers vary in colour; the legume is narrow, elongated, a finger's length and more; seeds solitary, seven to twelve, ovate kidney-form (Miller). Our article is the only species growing in Ceylon. In the Hortus Jamaicensis I find five species noticed (pp. 55, 56.)

CCCCXXII.

VULLAY POONDOO வெள்ளைப்பூண்டு (Tam.) *Lassun* لهسن (Duk. and Hind.) *Lasuna* लशुन (Sans.) *Garlic.*

ALLIUM SATIVUM (Lin.)

In addition to what is said of garlic at p. 150. Vol. I. I have to observe, that an expressed oil is prepared from it, called vullay poondoo unnay (Tam.), which is of a very stimulating quality, and

which the *Vytians* prescribe internally to prevent the recurrence of intermittent fever; externally it is used in paralytic and rheumatic affections.

CCCCXXIII.

VULLERKOO வேளவேளருகு (Tam.) *Suffaid-akre* سفيدا كڑي (Duk.) *Akand* اكاند؟ (Hind.) *Tella jelledee* or *jelladoo* (Tel.) *Swēta-arka* श्वेतार्क (Sans.)

In the first edition of this work I was led to give this plant as an actual variety of the asclepias gigantea, but now hesitate, and think that it may be the *akund* of Upper Hindoostan, and which is, we are told, there often confounded, from its general outward appearance, with the real arka (Sans.), the root of which is the *madar* of Upper India. I have never seen the akand or akund, but I understand that the resemblance betwixt it and the arka (Sans.) is very great, and continually leading to mistakes. I cannot close this article without again alluding to the great similarity of Tamool name betwixt our article and that of a plant which was mentioned to me by Dr. Klein of Tranquebar, viz. the *voellarekoo*, on which he bestowed the scientific appellation exacum hyssopifolium: it may be found fully described by Willdenow in vol. i. of his Species Plant. p. 640. It would appear by Klein's account to be bitter, resolvent, tonic, and febrifuge.

CCCCXXIV.

VULVAYLUM PUTTAY வுல்வயிலம் பட்டை (Tam.) *Tellatoomma putta* (Tel.) *Khadira* खदिर (Sans.) *Bark of the Rusty Mimosa.*

MIMOSA FERRUGINEA (Rottler).

Cl. and Ord. Polygamia Monœcia. Nat. Ord. Lomentaceæ.

A strong decoction of the bark of this thorny mimosa, in conjunction with *maradum-puttay* (bark of the terminalia alata) and ginger, is frequently employed as a wash for fastening the teeth.

The mimosa ferruginea was first botanically described by Dr. Rottler; from whose Herbarium (MSS.) Sir Alexander Johnston has kindly allowed me to take the following account: "*Caul.* arbor-aculeato; *ram.* angulatis, tomentosis; aculeis spars., recurvatis; *fol.* bibinnatis 13-jugis; partialib. multijugis pinnulis linearibus; *petiol.* commun. aculeato, ad basin glandula excurvata, oblonga; *flores* in panicula composita; spicæ globosa."

CCCCXXV.

VUTTEI PEMAYRUTTIE வுட்டெய் பெமயருட்டி, also *Vaydoobooriki* (Tam.), also in Tamool, *Erumoottie*. *Andabeerakoo* (Tel.) *Bhūta-ghnī* भूतघ्नी? (Sans.) *Betony-leaved Black Horehound.*

BALLOTA DISTICHA (Lin.)

Cl. and Ord. Didynamia Gymnospermia. Nat. Ord. Verticillatæ. *Indische Ballote* (Nom. Triv. Willd.)

This plant, which grows to about the height of two feet or more, possesses virtues nearly similar to those of the *pemayruttie* (nepeta Malabarica), and it is of the same class and order; "the *stem* is pubescent; *leaves* petioled, subcordate, serrate, tomentose; *whorls* single on each side; *flowers* alternate, sessile, rising on a simple, flexuose rachis; *seeds* four, roundish, and shining; the *leaves*, which only are used in medicine, have a bitterish sub-aromatic taste, and smell somewhat like camphor, but less pleasant." The ballota disticha is the *heen-yak-wanassa* of the Cyngalese, and is the only species of the genus growing in Ceylon.

CCCCXXVI.

VUTTEI KHILLOKILLUPEI (Tam.) *Ghelegheringta* (Tel.) *Nil-andana-hiriya* (Cyng.) *Blue-flowered Crotalaria.*

CROTALARIA VERRUCOSA (Lin.)

Cl. and Ord. Diadelphia Decandria. Nat. Ord. Leguminosæ. *Vierkantige Klapperschote* (Nom. Triv. Willd.)

The slightly bitter, but not unpleasant-tasted, juice of the leaves and tender stalks of this low-growing plant is prescribed, by the Tamool doctors, both internally and externally, in cases of scabies and impetigo; the common *killo-killupei* differs from our article in having broader leaves.

The crotalaria verrucosa is the *pee-tandale-cotti* of Rheede (Mal. ix. p. 53. t. 29.); is in Bengalese and Hindoostanie called *bun-sun;* it is an annual plant, with an herbaceous four-cornered *stem*, about two feet high; *leaves* warted, pale, green, on very short petioles; *flowers* alternate, smooth, and of a light-blue colour, succeeded by short, turgid pods, inclosing one row of kidney-shaped seeds. No less than fifteen species of crotalaria grow in Ceylon, the whole of them indigenous. Thirty-two have a place in the Hortus Jamaicensis. Our article is a native of Malabar, Ceylon, Java, and the Philippine Islands.

CCCCXXVII.

VYAGRA व्याघ्र (Sans.) *Vagh* (Hind.) *Bagh* باگھ (Duk.) پلنگ (Pers.) *Machun* ماچن (Malay). *Royal Tyger.*

Felis Tigris.

The *Vytians* have a notion, that the flesh of the royal tyger, boiled in mustard seed oil, used as an unguent for the body, is a remedy for emaciation.* Hamilton's MSS., written in *Berar.*

* It is amusing enough to contemplate the strange notions entertained by some of the Hindoo medical men respecting the virtues of their medicines; and, perhaps, one of the most singular is their conviction that the flesh of the *elephant*, boiled in mustard seed oil, is a sovereign remedy for the *Barbadoes leg*, which is the *dail-fil* of the Arabians, and is called by the Bengalese *islipad.* The Sanscrit name for the elephant itself is *hasti;* the Hindoostanie one is *hathi.* *Bear's-flesh*, Dr. Hamilton found the doctors in Berar prescribing for certain affections of the eyes, especially *cataract.* The bear in Hindoostanie is *reech* ریچ; in Tamool

CCCCXXVIII.

VYAGHRACHITRA * (Sans.) *Chita* (Hind.) *Leopard.*

FELIS LEOPARDUS.

The flesh of the leopard (boiled in milk) the *Vytians* suppose to have virtues in epilepsy (*mri-girog*) (Hamilton's MSS.)

The leopard and Indian panther (felis pardus) have the same name bestowed upon them by the

karradie; in Tellingoo *ellie goodoo;* in Arabic حرص; in Persian دب; and in Malay برواغ. He also discovered that in that district a decoction of the flesh of the antelope, in conjunction with a little coriander and mustard seed, was thought to be a remedy for the species of lepra called in Sanscrit *batracta*, see names for antelope (vol. i. p. 111.) The flesh of the *jackal*, boiled in oil and rubbed on the loins, in the same province, is believed to have virtues in cases of hæmorrhois (arsa). The jackal in Sanscrit is *srigal;* in Hindoostanie *gidarkamash;* in Malay چردي; and in Persian شغال. Nay, even the flesh of the *rhinoceros*, Dr. Hamilton ascertained, was reckoned medicinal, and ordered, boiled, and in combination with ghee, in the last stages of typhus fever (Hamilton's MSS.) In Sanscrit this animal is *gandaka*, and in Hindoostanie *gengra;* it is the بادک of the Malays, and the کرک and حریش of the Persians and Arabians; it is never met with in Lower Hindoostan. The flesh of the male camel, which is *ushtara* in Sanscrit, *vit* in Hindoostanie, حمل in Arabic, شتر in Persian, also *oonte* in Hindoostanie, is supposed, in Berar, to have virtues in diabetes (Hamilton's MSS.)

In other parts of Dr. F. Hamilton's manuscript, I perceive that the flesh of the buffalo (*bhingesh*), of the dog (*kutta*), musk deer (*harina*), monkey (*bamar*), black partridge (*titer*), and peacock (*mōr*), have all specific properties attached to them by the *Vytians* of the Berar province.

* Or, correctly, *chitra-vyāghra* चित्रव्याघ्र *the spotted tiger.*

natives, and the animals differ but little in essentials. The panther, however, is the most formidable, though not quite so beautifully spotted. The *chitah*, which the English call the leopard, is the *sirooteh poolhie* சிறுதைபுலி of the Tamools, and the *chitul* چيتل of the Mahometans of Lower India; it is the پلنگ of the Persians, and the *harimăn ăkăr* حريمن اقر of the Malays. The hunting leopard is a very handsome animal (felis jubeta); it is what is known to the Persians by the name of يوز *yooz*, and in Sanscrit by that of *chitraka* चित्रक.

CCCCXXIX.

UNDIMANDARI உருகிமாருகாஎர (Tam.) *Rujuni-ghundha* (Beng.) *Gool-shaboo* (Hind.) *Hoa-hue* (Cochin-Chin.) *Sandhyārāga* सन्ध्याराग (Sans.) *Tuberose Polyanthes.*

POLYANTHES TUBEROSA (Lin.)

Cl. and Ord. Hexandria Monogynia. Nat. Ord. Narcissi (Juss.) *Gemeine Tuberose* (Nom. Triv. Willd.)

This plant, which appears to be the only one of its genus, is, I believe, but do not give it with confidence, the *andi malleri* of Rheede, who says nothing of its medicinal virtues; it is the *sandal malam* of the Malays which signifies "*mistress of the night*," and hence the name that Rumphius bestowed on it *amica nocturna*. (Amph. 5. p. 285. t. 98.) Moon gives us no native name for it, but speaks of two varieties, a single, and a double. The polyanthes tuberosa was brought to me, with many other plants, and was said to be medicinal, though I much question the assertion. It appears to have been more fully described

by Loureiro than any other writer; he says of it, "*Radix* bulbus, tunicatus albus; *folia* radicalia subulata, longa, curva, reflexaglabra; *flos* albus adoratissimus, alternus, spica longa terminali." It is a native of Java, of Ceylon, and of India, and is much cultivated in some parts of Italy, on account of the beauty and fragrancy of the flowers; and from that country the bulbus roots are sent annually to England. Of it Loureiro says, "Habitat ubique in Cochin-Chinæ hortis; et quanquam ob eximiam fragrantiam æstimabilis facillime colitur et propagatur per bulbos." (Flor. Cochin-Chin. vol. i. p. 205.)

CCCCXXX.

UPU-DALI ഉപുചാലാവ് (Malealie). *Nilpuruk* (Cyng.) *Ringent-flowered Ruellia.*

RUELLIA RINGENS (Lin.)

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Rachenformige Ruellie* (Nom. Triv. Willd.)

The juice of the leaves of this plant, boiled with a little salt, Rheede says (Mal. 9. p. 225. t. 64.), is supposed, on the Malabar coast, to correct a depraved state of the humours.* The plant is procumbent; *stem* a span long, jointed; *leaves* oblong, quite entire; *flowers* solitary, sessile (Flor. Zeyl. 234.)

The ruellia ringens is described by Dr. Roxburgh, in his Flor. Indica (MSS.), who tells us, that it is a perennial creeping plant, with opposite, oblong *leaves* and *flowers* axillary and short peduncled.

* Sometimes given in conjunction with *pundum*, or liquid copal, which is got from the *Vateria Indica* (Lin.), and is supposed to have virtues in gonorrhœa; this pundum is also occasionally called *peynie varnish*, and will be noticed in another part of this work.

CCCCXXXI.

URKASI (Hind.) *Vandārī* वन्दारी (Sans.) *Heart-shaped leaved Tragia.*

TRAGIA CORDATA.
TRAGIA CORDIFOLIA (Vahl.)

Cl. and Ord. Monœcia Triandria. Nat. Ord. Euphorbiæ.

This shrubby, twining plant, was brought to Dr. F. Hamilton while in Berar, where he was informed, that the powder of the leaves, given in milk, was a remedy for making people grow fat, and to increase the seminal secretions. The *leaves* are cordate serrate, acuminate, paler underneath; *spikes* terminating. The plant is the jatropha pungens of Forskahl (Descriptiones p. 163.), a name given from its stinging like the nettle; it is a native of Arabia Felix, and is called by the natives of that country *horekrek* حرقرق, also *meherkaha* محركة.

I find three species of tragia grow in Ceylon; two have a place in the Hortus Bengalensis, one of which we have already noticed, the *canchorie* (Tam.), see Vol. I. p. 61., and which is the *bichittie* of the Bengalese, called in Sanscrit *vrishchi-putrī* वृश्चिपुत्रि.

CCCCXXXII.

UTTIMARINI (Hind.) *Kārambhā* कारम्भा (Sans.) *Ivy-leaved Toad Flax*, or *Snap Dragon.*

ANTIRRHINUM CYMBALARIA (Lin.)

Cl. and Ord. Didynamia Angiospermia. Nat. Ord. Personatæ. *Eckiges Lowenmaul* (Nom. Triv. Willd.)

This is a plant which Dr. F. Hamilton had brought to him while in Berar, where he was told by a Hindoo medical man, that the dry herb was given, in combination with sugar, twice daily in diabetes (Hamilton, MSS.)

The antirrhinum cymbalaria has a perennial fibrous root, and numerous *stalks*, growing in a tuft, creeping at bottom, branches round, purplish, and stringy; *leaves* heart-shaped, five-lobed, alternate; *petioles* long, grooved above; tube of the corolla short, the upper lip purple, with two deeper veins; segments of the lower whitish; the *palate* yellow; *nectary* purple, concealed; *germ* purple; *capsules* wrinkled; *seeds* blackish, roundish, wrinkled, like the nut of the walnut; the whole plant is smooth, with a rather disagreeable smell (Curtis), it varies with a white flower (Lin.)

The antirrhinum cymbalaria is a native of Germany, Switzerland, and Holland, which makes it the more singular that Hamilton should have found it in the heart of the Indian continent; a circumstance I should scarcely have credited, if I had not seen it mentioned in his manuscript, as above stated. Of the seventy species of the genus mentioned by Willdenow, I can find but one growing so far East* as Persia, and that is the papilionaceum. The oldenlandia biflora (Lin.), which is the antirrhinum humile of Burm. Zeyl. (22. t. 11.), is a native of most parts of India, and is called by the Bengalese khet-papura, and in Sanscrit क्षेत्रपर्पटी kshetra parppatī.

* Loureiro, however, notices five species, three of which are natives of Cochin-China, and two of China proper. See Flora Cochin-Chin. vol. ii. p. 383.

Our article is the Linaria cymbalaria of the first edition of Miller's Dictionary, and the cymbalaria vulgaris of Tournefort (Inst. 169.)

CCCCXXXIII.

WASSINAPILLOO வாசனைபிலவு (Tam.).

See article Camachie Pilloo, Vol. I. p. 58.

CCCCXXXIV.

WIDDATILAM வெடிதிலாடம (Tam.) *Poodina* پودینہ (Duk.) *Mint.*

MENTHA SATIVA (Var.)

See article Mint, in Vol. I. p. 241.

CCCCXXXV.

WELULING (Jav.)

This plant, Dr. Horsfield informs us, in his Account of the Medicinal Plants of Java, forms a new genus. It acts particularly on the salivary glands; and is used by the Javanese for the tooth-ache and strengthening the gums. The peculiar virtue, it would appear, lies in the bark, which is rough, pungent, and aromatic.*

* See Asiatic Journal for April 1819, p. 362.

CCCCXXXVI.

WELLIPANNA-KELINGOO வெள்ளைப்பன கிழங்கு (Hort. Mal.) *Yew-leaved Polypody.*

POLYPODIUM TAXIFOLIUM (Lin.)

Cl. and Ord. Cryptogamia Felices. Nat. Ord. Felices. *Taxusblattriger Engelsuss* (Nom. Triv. Willd.)

We are informed by Rheede (Hort. Mal. part 12. p. 25.), that the leaves of this fern, reduced to powder and taken in honey, are powerful emmenagogues, and bring on abortions; he therefore adds, "mulieres ergo cavete vobis." Of it, Linnæus says (Spec. Plant. 1545.), "*fronds* pinnate; *lobes* approximating, ensiform, parallel, acute, ascending; *root* rough-haired."

CCCCXXXVII.

WOODIAM PUTTAY ஒதியமரப்பட்டை (Tam.) *Woddiputta* (Tel.) *Ajasringgī* अजशृंगी (Sans.) *Bark of the Woodia Tree.*

ODINA PINNATA (Kœnig).
ODINA WODIER (Roxb.)

This bark, pounded very fine, and mixed with a little margosa oil, the *Vytians* consider as a valuable application for old and obstinate ulcers. The tree is common on the Coromandel coast, where its wood is much used for common carpenters' purposes.

It is of the Cl. and Ord. Dicœcia Octandria, and Nat. Ord. Dub. Ordinis: it appears to have hitherto been only described by Kœnig. In Willdenow, of the same class and order, I find only the genus populus.

Since writing the above I have seen Dr. Roxburgh's description of this tree in a manuscript copy of the Flora Indica; he informs us, that it is a very large tree, of which nothing can be said in favour, but that it grows quick. Of the essential character, he observes,

"HERMAPH. *Calyx* four-toothed; *corol.* four-petalled; *stam.* 8; *drupe* above, one-celled.

"MALE. *Coral, calyx*, and *stamens*, as in the hermaphrodite."

The tree is the jewul of the Bengalese; it is *cushmulla* in Hindoostanie, and *compina* in Tellingoo.

CCCCXXXVIII.

WODOOWUNGHAI வடவாகாய (Tam.) *Nulloopoo-moostikaia* (Tel.) *Vishavriksha* विषवृक्ष (Sans.) *Cadishaw Andrachne.*

ANDRACHNE CADISHAW (Roxb.)

Cl. and Ord. Monœcia Gynandria. Nat. Ord. Tricoccæ.

Wodoowunghāi is a small nut, nearly the size of a filbert, which the Tamools reckon one of their strongest poisons: about one pagoda weight pounded they believe to be sufficient to kill a man: the leaves and root of the plant are also considered as poisonous; the first, which no animal will touch, is, in conjunction with kadukai (chebulic myrobalan) supposed to be a good application for foul ulcers.

Of the genus, of which Willdenow notices but two species, the *telephioides* and *fruticosa*, the same author says,

"MASCULI. *Cal.* 5-phyllus; *cor.* 5-petala; *stam.* 5; *styli* rudimento inserta.

"FEMINEI. *Cal.* 5-phyllus; *cor.* 0; *styli* 3; *caps.* 3-locularis; *sem.* 2."

CCCCXXXIX.

YERCUM VAYR பேரகமலைப் (Tam.)
Root of the Gigantic Swallow-wort.
ASCLEPIAS GIGANTEA (Lin.)

In addition to what I have said of this plant, under the head of *Mudar-root* (vol. i. p. 227.), and *Yercum Pawl*, and *Yercum Vayr* (vol. i. pp. 486, 487, 488.), I shall simply observe, that the reader may find some recent information respecting its medicinal properties in a valuable paper by G. Playfair, Esq., in the first volume of the Transactions of the Medical and Physical Society of Calcutta (p. 77.): that gentleman gives a botanical description of the plant, and describes the best method of preparing the mudar (or madar*); he says the diseases in which it has been given with advantage are various; syphilis, lepra, cutaneous eruptions, hectic fever, dropsy, rheumatism, glandular obstructions, tape worm, and intermittent fevers. The form in which Dr. P. seems chiefly to have prescribed the medicine is powder, in doses of five or six grains twice daily.

* Which is the rind of the root, equally distinct from the brown external crust and the woody part.

The charcoal of the wood of the yercum (Tam.), and the bark of the root, are much used by the natives of the Coromandel coast in some of their pharmaceutical preparations. The plant is said to be a poison for goats and sheep, and is called in Canarese *yecada*. Rheede says (Hort. Mal. part 2. p. 55.) that a decoction of the root of the *ericu* is given in intermittent fever, and that it is also of advantage when prescribed for those swellings which women are subject to after confinement. The asclepias gigantea was brought to Dr. F. Hamilton, with other medicinal plants, while in Behar, and there called *ak*, and in Sanscrit *axka:* the dry leaves the *Vytians* of that province told him were burnt for the purpose of fumigating obstinate sores (*dushtraban*, Hamilton's MSS.)

CCCCXL.

YETTIE COTTAY ஏட்டிகொட்டை (Tam.) *Poison Nut*, or *Nux Vomica*.

Strychnos Nux Vomica (Lin.)

See article Poison Nut, Vol. I. p. 317., or article CLXXI.

CCCCXLI.

ZUKHUM HYAT زخم حیات. *Hemsagar* (Hind.) *Mala-kullie* (Tam.) *Homedet alrobah* حمدت الرباح (Forsk.) *Hemasāgara* हेमसागर (Sans.) *Cut-leaved Navel-wort*.

Cotyledon Laciniata (Lin.)

Cl. and Ord. Decandria Pentagynia. Nat. Ord. Succulentæ. *Schlitzblattriges Nabelkraut* (Nom. Triv. Willd.)

This is a plant, the bruised, succulent leaves of which are considered as a valuable application in cases of foul ulcer: they are chiefly employed by the Mahometan practitioners; and I can myself speak of their good effects in cleaning and allaying inflammation. It is called by the Cochin-Chinese *truongsinh-rach-la*, who consider it as refrigerant (Flor. Cochin-Chin. vol. i. p. 286, 287.) It is well described by Dr. Roxburgh, in his Flora Indica (MSS.); but he does not appear to have been aware that it was considered as possessing any medicinal properties: he says of it, "The *roots* and lower parts of the *stem*, which often rest on the ground, are perennial; *stems* several, erect, branchy; *leaves* opposite, petioled; *flower* large, in an oval pannicle, the divisions generally three-fold." The cotyledon laciniata is the telephium Africanum (Pluk. Alm. 362. t. 228.) and the planta anatis of Rumphius (Amb. v. p. 275. t. 95.) In the Hortus Bengalensis I find three species have a place. Willdenow notices twenty-four species of cotyledon: most of them are African plants. Our article is an African plant; but seems to grow also in India and Cochin-China.

CHAPTER II.

BOOKS IN VARIOUS EASTERN LANGUAGES CONNECTED WITH MEDICINE AND OTHER SCIENCES.

A LIST OF SANSCRIT MEDICAL AND OTHER BOOKS, verbatim as it was given to me by a celebrated Hindoo physician of Southern India, and written by a learned native of the name of Rāmaswāmy Naig.

1. *Vydia Chintamunny.*

A medical work said to be composed by *Durmuntrie.** The book treats of the pulse, fevers, spasmodic and nervous affections, derangements of the urinary organs, &c.

2. *Vydia Shattasloikie.*

Another work by the same author, on the Materia Medica.

3. *Gonna Pātum.*

Another work by Dhanwantrie, on natural history and the nature of the different aliments.

* The Tellingoos give to this celebrated author a divine origin; or, perhaps, by *Durmuntrie* they mean *Dhanwantari*, of whom some notice is taken in the preliminary observations to this volume. Be that as it may, several works of great repute are ascribed to him; Commentaries on the Sacred Medical Sastras.

4. *Curma Candum.*

Another work by the same author, on the causes of diseases.

5. *Roga Needānum.*

Another work of *Dhanwantari*'s, on peculiar constitutions and temperaments, and the diseases arising therefrom.

6. *Silpey Sastrum.*

This work treats of the arts and manufactures of the Hindoos. It is held in the highest estimation in the Southern provinces, and has been translated into Tamool and Tellingoo.

7. *Vydia Sastrum.*

A celebrated work on the *Materia Medica*, by *Dhanwantari.*

For some account of the following Sanscrit books I am indebted to the same learned Hindoo *, who gave me the list as it now stands; whether the spelling of the words may be conformable to what is adopted in Upper India, I much doubt.

8. *Sooshrootum.*

A work by *Dhanwantari*, one of the incarnations of Vishnoo, consisting of six distinct heads: 1. Relates to terms and definitions; 2. to the different parts of the body; 3. to the nature of diseases; 4. to the remedies; 5. to the diet; and 6. to general management.

* Rāmaswāmy Naig.

9. *Ustangha Heroodyem.*

The author of this work is *Vackbutta Vydeya.* It consists of six parts: 1. the general principles, or theory of physic; 2. relates to the human frame; 3. to the nature of fever and other diseases; 4. to the remedies for them; 5. contains the art of compounding medicine; the 6th, and last, treats of children's maladies.

10. *Padardha Chendrekah.*

The author of this work is *Hamadry.* It is also called *Ayur-Veda Rasayanum*, and is a medical sastrum, taken from the Ayur-Veda.

11. *Servangascondary Teeka.*

The author of this is *Aruna Dutta.* It is a commentary on the two last-mentioned books.

12. *Heroodya Deepeka Neguntoo.*

The author of this is *Boshadavah.* It is a dictionary or book of reference for the *Ustangha Heroodyem.*

13. *Sekitcha Sara Sungraham.*

The author of this is *Vungasha.* It treats of the nature of fever, and many other diseases, with their remedies.

14. *Sekitchah Meroota Sāgaram.*

The author of this is *Devy Dasah.* Its subject is nearly the same as that of the last-mentioned work; but it also includes such ailments as are brought on mankind by their iniquities.

15. *Rasarutna Samoochayem.*

The author's name is *Vakbuttah.* It treats of the medicines which are prepared with quicksilver, arsenic, and nine other metals; also of sulphur, and precious stones, and contains, besides, numerous formulæ, applicable to various diseases.

16. *Rassa Rutnacaram.*

The author is *Nitteyananda Siddah.* It also treats of medicines prepared with various metals.

17. *Rasa Sarum.*

The author's name is *Govindacharry.* It treats of the metals, likewise of precious stones, pharmacy, and many curious mysteries.

18. *Videya Chintamoney.*

The author's name is *Vullabendrah.* It is a general treatise on diseases and their remedies.

19. *Bhālum.*

The author's name is *Bhalacharyah Reshie.* It is a work on nosology, and the practice of medicine.

20. *Sharunga Dareyam.*

The author's name is *Sharunga.* It is a work nearly similar to the last-mentioned.

21. *Bhashajah Serwaswam.*

This is a work composed by one of the sages of antiquity, name unknown. It treats of the medicines applicable to a number of diseases.

22. *Vydeyah Saravaly*, and *Sidayoga Retnavaly*, are two works similar to the last-mentioned.

23. *Kullianah Carakah Bhashajam.*

The author is *Woograditteya Chareya Reshie.* A general work on medicine.

24. *Shikritcha Kalekah.*

A work on medicine, by *Teesat.*

25. *Sarasungraham.*

A medical sastrum, author's name not known.

26. *Vydeyamrootum.*

A medical work, by *Shevah.*

27. *Dunwuntry Saranedy.*

A medical work, by *Veyasah Maha Reshie.*

28. *Aurogyah Chintamoney.*

A work on medicine, by *Pundetah Damodareh.*

29. *Roogvy Nechayem.*

A medical work, by *Madava Chareyah.*

30. *Shatashooloky.*

A medical work, by an ancient writer, whose name is not correctly ascertained.

31. *Chendracalah.*

A medical work, by *Bopa Dawah.*

32. *Bavardah Dauyekah.*

The author's name *Vanyduttah.* This and the preceding work are commentaries on the *Shatashooloky.*

33. *Vydeyah Jeevanam.*

The author's name is *Solimbah Rajah.* A short treatise on medicine.

34. *Yoga Shatacum.*

A short treatise on medicine, by *Vararoochy.*

35. *Bashajah Sungrahum.*

This work is also sometimes named *Shatasuloky.* It is a medical work by an ancient Doctor.

36. *Chunnypatah Pada Chendreka.*

The author's name is *Manikeyah.* It is a commentary on the last-mentioned work.

37. *Chunnypatarn Avum.*

This is a short work on thirteen different kinds of delirium.

38. *Bhojanakootoohalum.*

An interesting work, composed by *Ragoonadah Soory*, on the nature of alimentary substances; it has frequent reference to the celebrated *Derma Shastrum*, and treats besides on the constitutions of women as differing from those of men.

39. *Ayoorvada Pracashum.*

A work on the venereal disease, by *Madvopaddeyæy.*

40. *Ayoorvada Mahodady.*

A work on diet, by *Streemookah.*

41. *Chamutcara Chintamany.*

This is a manual for the treatment of many diseases, and written by *Govindah Rajah.*

42. *Vydeyavatumsum.*

A work on diet, and general management of patients during the time they are taking medicine, by *Lolimba Rajah.*

43. *Bhashaja Culpum.*

This is a curious work, giving the trivial names of the medicines, to make them accessible to common people; it is composed by a celebrated maha reshie (prophet) called *Bharedvajah.*

44. *Rajah Neguntoo.*

A work consisting of different medical tracts composed by *Narasimma Pundit;* it is also sometimes called *Abhydana Chudamony.*

45. *Putleyah Putleyah Vebodaha Neguntoo.*

A work very similar to the last.

46. *Dunvuntry Neguntoo.*

A work on medicine of very great antiquity, and extremely scarce in Lower India, composed by a maha reshie whose name is unknown.

47. *Abhydana Retnamalah.*

This is a work like the last; it is also sometimes named *Shudrasa Negunto;* it treats of several medicines not in common use, and also of various minerals and metals.

48. *Mahapatum.*

This work is said to have been dictated by *Palacaveya* to *Romapada Rajah;* it treats of elephants, their breeding, diseases, &c.

49. *Sara Sindhoo.*

This is a useful and curious work, which treats of horses, the best mode of breeding them, their diseases, &c.

50. *Siddayogah Retnavaly.*

A rather desultory work on various diseases, by an ancient author.

51. *Kalpastanum.*

This is the name of a medical work, part of which was translated by Dr. Heyne, and to which he makes frequent reference in his "Tracts Historical and Statistical on India."

52. *Amerah Cosha.*

This is a celebrated Sanscrit Dictionary, which gives an interesting account of many things connected with natural history, &c.; it was written by Amera Sinhah, and has been admirably translated into English by H. T. Colebrooke, Esq.*

* Mr. Ward, in his excellent "View of the History of the Literature and Mythology of the Hindoos" (vol. iv. p. 341.), in-

53. *Rajaballabba.*

This is a work on the Materia Medica of the Indians; it is written by *Naryanadasa* in the Bengalese character.

54. *Agni Purana.*

This is a celebrated work, pretended to have been delivered by Agni, the god of fire. Sir W. Jones has called it an epitome of the Hindoo learning. Amongst many other subjects it contains a valuable treatise on the healing art, applicable to man and beast; it is written in the Bengalese characters. See Sir W. Jones's works, vol. xiii. pp. 405, 406.

A LIST OF TAMOOL MEDICAL AND SCIENTIFIC BOOKS.

The greater number of these were originally written in high Tamool verse (*yellacanum*); others were composed in Sanscrit, and subsequently translated into Tamool.

1. *Vŷtia Vághádum Ayrit Anyouroo* வைத்திய வாகடமென்னும்

A medical work by Reeshé Aghastier*: it is written in Tamool poetry, and consists of 1,500 verses.

forms us of the names of sixteen original medical writers, taken from the *Makundeyou Pooranu;* he also, in the same work, and volume and page, gives some account of the medical tracts still extant in the higher provinces of India: these appear somewhat to differ from the writings above mentioned, which are common in Lower Hindoostan.

* I have been at much pains to ascertain the period at which *Aghastier* lived, but have not been able to procure any information

2. *Tunmundrie Vághádum* தன்மந்திரவாகடம்

A medical work, originally written by *Tunmundrie* in Sanscrit, and translated into Tamool verse by *Aghastier*. It consists of 2000 verses. The Hindoo practitioners hold it in high veneration, for the particular account it gives of many diseases, and the valuable receipts it contains.

3. *Cundā Poorānum* கந்தபுராணம்

A work on ancient history, originally written in Sanscrit verse, by *Reeshe Aghastier*, and afterwards translated into Tamools by *Cuchiápá Braminy*. It consists of 1000 stanzas.

that is satisfactory. He, like some other great writers of antiquity amongst the Hindoos, is said to have had a divine origin; and the account of his birth (which may be found amongst the sacred records of the great pagoda at Madura, in a book entitled "*Voothra Ranmoynom*," composed by *Vaulmeegār*) is a very extraordinary one, but too indelicate to be inserted here. This much, however, may be told, that he had two fathers, both gods; the one named *Mitthéren*, and the other *Várānen* (the deity of rain); and that the beautiful dancing woman, *Voorveshee*, was the incitement to his creation, but not his mother. The infant child was baptised *Aghastier*, by the seven holy prophets, and *Perasbātheebagavain* (the high priest of the gods); who, having performed certain religious ceremonies over him, put round him the braminical and sacerdotal string, and ordered that he should be instructed in every science. With increasing years, *Aghastier* became a most wonderful and enlightened personage; and was not less celebrated for his great learning, than for his charity, piety, and benevolence. He worked numerous miracles; and, besides many valuable medical books, he wrote various dissertations on moral and natural philosophy. He composed in high Tamool verse, according to the custom of the age in which he lived; and is said to have greatly improved and refined his native language. This *mághá reeshe*, or saint, is supposed to have been born in the Southern part of the peninsula; and *Religiosi* relate, that he is even now, at times, visible, and that his healing spirit hovers amongst the mountains of Courtālum.

4. *Téroovuléāudel Poorānum* தெருவுலெளடல புரானம்

A work on moral philosophy, originally written in Sanscrit, by *Aghastier*, and subsequently translated into Tamool verse by *Purunjoudy*, a *Pundārum*. It consists of 3,367 stanzas.

5. *Poosāvédy* பூசாவெதி

This book treats of the religious rites and ceremonies of the Hindoos. It was written by *Aghastier*, and consists of 200 verses.

6. *Deekshaāvédy* தீகஷாவெதி

A work which treats of magic and enchantment, on the use and virtues of the rosary, and on the education of youth. It consists of 200 verses, and was written by *Aghastier*.

7. *Pérnool* பெருநூல

A medical work, written by *Aghastier*, in high Tamool. It consists of 10,000 verses, and treats fully of all diseases, regimen, &c.

8. *Poornā Nool* பூர்ணநூல

This book consists of 200 verses. It was written by *Aghastier*, and treats chiefly of exorcising; it also contains many forms of prayer.

9. *Poornā Soostrum* பூர்ணசூஷதிரம

A work on the intuition of religious disciples, and on their forms of devotion, and which also treats of the materia medica and regimen. It was written by *Aghastier*, and consists of 216 verses.

10. *Tirmooler Vȳtia Vághádum* திருமூலர்வைத்தியவாகடம்

A medical work by *Tirmooler*, a great prophet of antiquity. It treats particularly of the symptoms of diseases, and of the diet that ought to be observed during the administration of medicine. It was written in Tamool verse, and consists of upwards of 2000 stanzas.

11. *Curmā Cāndum* கருமகாண்டம்

A medical *shaster* by *Aghastier*, written in Tamool verse, and consisting of 300 stanzas; supposed to be translated from the Sanscrit of *Durmuntrie*. It treats of those diseases which are inflicted on mankind for their follies and vices.

12. *Aghastier Vȳtia Ernoot Unjie* அகஸ்தியர்வைத்தியரெண்ணூறு

A work on medicine and chemistry, written by *Aghastier*, in Tamool verse, and consisting of 205 verses.

13. *Aghastier Vȳtia Nootiéumbid* அகஸ்தியர்வைத்தியநூற்றைம்பது

A work in Tamool verse, written by *Aghastier*. It consists of 150 stanzas; and treats of the purification, or rendering innocent, of sixty-four different kinds of poison (animal, metallic, and vegetable), so as to make them safe, and fit to be administered as medicines.

14. *Aghastier Vȳtia Vághádum Nāpotéttoo* அகஸ்தியர்வைத்தியவாகடமூஉ

A medical *shaster*, written by *Aghastier*, in Tamool verse, on the cure of gonorrhœa; and consisting of 48 stanzas.

15. *Aghastier Vȳtia Padinārroo* அகஸ்தியர்வைத்தியஇரு

A medical *shaster*, written by *Aghastier*, in Tamool, and consisting of 16 verses. It treats of the diseases of the head, and their remedies.

16. *Aghastier Vȳtia Eránoor* அகஸ்தியர்வைத்தியஎன்

A medical *shaster*, written by *Aghastier*, in 200 Tamool verses. It treats of chemistry and alchymy.

17. *Cālikiānum* கலிகியாணம

A work on theology, written, in Tamool verse, by *Aghastier*, and consisting of 200 stanzas.

18. *Mooppoo* மூப்பு

A medical *shaster*, written by *Aghastier*, in Tamool verse, and consisting of 50 stanzas. It treats of the eighteen different kinds of leprosy, and their cure.

19. *Aghastier Vȳtia Ayrit Erānoor* அகஸ்தியர்வைத்தியஆயிரத்தென்

A medical *shaster*, written by *Aghastier*, in Tamool verse, and consisting of 1,200 stanzas. It treats of botany and the Materia Medica.

20. *Aghastier Vȳtia Anyouroo* அகஸ்தியர்பெயிதியம்

A valuable work on medicine, written by *Aghastier*, in Tamool verse, and consisting of 500 stanzas. It treats very fully of many diseases, and contains a great variety of useful formulæ.

21. *Aghastier Vȳtia Moon-noor* அகஸ்தியர்பெயிதியம்

A work on pharmacy, written by *Aghastier*, in Tamool verse, and consisting of 300 stanzas.*

A LIST OF PERSIAN AND ARABIC MEDICAL AND SCIENTIFIC BOOKS; the names of some of which were taken from Stewart's descriptive Catalogue of Tippoo Sultan's Library.

1. *Cānoonie Secundrie* قانون سكندري

The medical rules of *Secunder*. A Persian work originally written in Syrian, by *Yāhiākoorb*, and translated into Persian by *Secunder*. It treats fully of all diseases, and their remedies.

2. *Krābādini Secundrie* قرابادين سكندري

The pharmacy of Secunder. A Persian work, originally written in Syrian by *Yāhiākoorb*, and translated into Persian by *Secunder*.†

* The account of the medical and other works of *Aghastier* in the foregoing list, was obligingly procured for me by Dr. M. Christy, from a learned Brahmin belonging to the great pagoda at Madura.

† A beautiful copy of this celebrated work, in four volumes folio, was presented to the Royal Asiatic Society by H. T. Colebrooke, Esq.

3. *Tibbal Akbar* طب الاکبر

A celebrated Persian medical work, written by *Akbar* (commonly known by the name of *Mahumud Arzānie*), which treats fully of diseases and their remedies.

4. *Krābādini Shéfāie* قرابادین شفای

The pharmacy of *Shéfāie*, compiled in Persian by Hakeem *Muzuffer*, son of *Hussénie Shéfāie*.

5. *Mufurdātie Secunderee* مفردات سکندری

A work on the Materia Medica, originally written in Syrian, by *Yāhiākoorb*, and translated into Persian by *Secunder*. It seems to be a curious and interesting work, as it not only gives us the opinions of the old Arabian physicians regarding the articles of the Materia Medica, but also many of the later notions of the Medical men of Europe.

6. *Mufurdātie Moominā* مفردات مومنا

A work on the Materia Medica by *Moominā*, in Persian, but originally written in Arabic.*

* It is well known, that the Arabians, at a very early perio cultivated the science of medicine; but little information has reached us regarding any of their physicians of note, previous to *Serapion* and *Avenzoar*, who lived in the seventh and eighth centuries. These were followed by *Rhazes*, *Avicenna*, *Mesue*, *Rabbi Moise*, *Hali Abbas*, *Alsaravius* and others, who flourished during the tenth, eleventh, and twelfth centuries. It is true, that they were almost mere copiers of the Greeks (many of whose valuable writings fell into their hands, after having miraculously escaped the fury of the Saracens, at the destruction of the second† library at Alexandria), yet it is to them that the world stands indebted for many articles of high repute in the Materia

† See "Cabani's Sketch of the Revolutions of Medical Science," p. 106.

7. *Kitāb Ulādweeā wul Agzeeāht Aboo Yākoob Ishaak bin Solimaan Ul Israīlie*

كتاب الاد و يه والاغذيات ابو يعقوب اسحاق بن سليمان الاسرا ئيلي

A work in Arabic on medicine and regimen, by *Aboo Yākoob Ishaak*, the son of *Solimaan Ul Israīlie*.

8. *Kitāb Ulādweeā Bin Bȳtar* كتاب الادويه بن بيتار

A medical work in Arabic, which treats of all simple medicines, by *Bin Bȳtar*.

9. *Kitāb uljudrie wul Husbāh āboo Giāfur Ahummud Bin Māhumud*

كتاب الجدري و الحصبه ابو جعفر احمد بن محمد

A work in Arabic on small-pox and measles, by *Aboo Giāfur Bin Māhumud*.

10. *Kitābi Sirsām wo Birsām Aboo Giafur Ahummud Bin Māhumud*

كتاب سرسام و برسام ابو جعفر احمد بن محمد

A work in Arabic on phrensy and madness, by *Aboo Giafur Bin Māhumud*.

Medica, and for having first encouraged that research into the vegetable kingdom, which has, in later ages, proved so beneficial to mankind.

It would seem as if the Syrians had been antecedent to the Arabs in translating from the Greek; and there are extant many Arabic tracts, professedly taken from the Syrian, which are known to have been originally written by *Hippocrates*. Nor did the industrious followers of *Mahomet* rest contented with borrowing from the Greeks, the then most enlightened nation of Europe; we find that they were also in the habit of looking towards the more remote regions of the East, to increase their stock of knowledge, and of translating into their own language some of the medico-theological compositions of the Indian physicians.

11. *Kitāb Ulsoomoom*

كتاب السموم اول درهند و ي شاناق بعداز فارسي ابوجاتم بعداز عربي عباس سعيد الجوهري

A work in Arabic on poisons; originally written by the Indian * *Shānāk*, afterwards translated into Persian by *Aboo Hātem*, and subsequently into Arabic by *Abbās Sāid Uljowhérie*.

12. *Kitābi Shawshoord Alhindie* كتاب شاشرد الهندوي

An Arabic work, which treats of the articles of the Materia Medica, and gives rules by which they may be distinguished. Originally written by the Indian *Shawshoord*, and afterwards translated into Arabic.

13. *Kitāb Ulghūzā wul Mughtozie Aboo Giafur Uttobeeb* كتاب الغذا والمغتذي ابوجعفر الطبيب

A book in Arabic, which treats of aliments, and of the sick who use them, by *Aboo Giafur Uttobeeb*.

14. *Kitāb Ulnubz Ul Aristoo* كتاب النبض الارسطو

A work in Arabic on the pulse, originally written by *Aristotle;* first translated into the Syrian language, and subsequently into Arabic.

15. *Mufurdātie Ghunnie Māhumud* مفردات غني محمد

A work in Arabic on the Materia Medica, by *Ghunnie Māhumud*.

* A curious fact, ascertaining the borrowing of the Arabians from the Indians.

16. *Ulfaz Udwiyéh*

الفاظادويه تصنيف نورالدين محمد عبدالله شيرازي

The Materia Medica, in the Arabic, Persian, and Hindooie languages; compiled by *Noureddeen Mohámmed Abdullah Shirāzy*, physician to the Emperor *Sháhjehán;* with an English translation by Mr. Francis Gladwin.

17. *Jāmî āl Ulūm* جامع العلوم

A treatise, in Persian, on universal science (viz.), on astrology, geography, physic, music, theology, war, agriculture and horticulture, omens, talismans, chemistry, magnets, &c., composed by *Sufy Mohammed Ghos*, of Gwāliar.

18. *Jūāhir Nāmeh* جواهر نامه

The science of precious stones, and minerals of all kinds, written in Persian, by *Mohammed Benmunsūr*, and dedicated to Abūl Nusur Hassen Behadur Khān.*

19. *Khūās al Hejar* خواص الحجار

A treatise on gems and mineralogy, translated into Persian from the Arabic by *Allamy Tuffashy*.

20. *Khūās al Hīvān* خواص الحيوان

A very excellent natural history of animals, translated into Persian from the Arabic of *Hayyet al Haivan*, by *Mohammed Tuky Tabrizy*, and dedicated to Shah Abass the second, of Persia.

* Another valuable work on the same subject is entitled كتاب ازهار الافكار في جواهر الاحجار تصنيف ; it is composed by *Achmed Teifascite*, and has been admirably translated into Italian by Antonio Raineri, Professor of Oriental Languages at Florence.

21. *Mujmua al Senāyi* مجمع الصنايع

The repository of arts, in Persian; containing instructions for making artificial gems or stones, colours or paints of all kinds, also fire-works; to which is added, the art of dyeing cloths, silks, &c. This work was compiled during the reign of Aurungzebe; the author is *Zein al Aabidin*

22. *Resaleh Rung va Buy* رساله رنگو بوي

A treatise, in Persian, on the art of dyeing cloths, and of composing perfumes; it is a collection of receipts on these subjects, made by order of Tippoo Sultan.

23. *Muferredat Der Ilmi Tibb* مفردات درعلم طب

A treatise, in Persian, on botany and natural history, translated from French and English books, by order of Tippoo Sultan.

24. *Itmam al Dirayet Shereh Lughāyet*
اتمام الدراية شرح لغاية

A very diffuse Arabic treatise on general science.

25. *Zekhīreh Khūārizm Shāy* ذخيره خوارزم شاهي

The preface of this Persian work gives a description of the kingdom of Khuārizin, its climate, water, soil, and products. The ten chapters of the work treat of many diseases, general as well as local, surgery, eruptions, poisons and their antidotes, and of medicines simple and compound. The first chapter particularly details the various sciences and subjects requisite to be known by a physician previous to commencing his practice. The author is *Ismael Ben Hussein Ben Mohamed Jorany*, and the work is dedicated to Khuarizim Shaw.

26. *Khiffi Alāi* خف علاي

A treatise, in Persian, on the preservation of health; containing well written essays on air, seasons, houses, clothing, food, water, wine, sleep, exercise, emetics and purgatives, involuntary vomiting, bleeding, shaving, and disease in general; to which are added precautions to be observed when exposed to the inclemency of the weather; by the above author (*Ismael Ben Hussein*), in A. D. 1113.

27. *Tibbi Yādgār* طب يادگار

A sensible Persian treatise on medicine, in fourteen chapters, to which is added an extensive pharmacopœia; by the above author.

28. *Kifāieti Mujahidin* كفايت مجاهدين

An exposition of diseases, in Persian, particularly those to which women are subject, with the proper mode of treating them; to which is added an essay on the management and care of children. Author, *Munsur Mohammed;* dedicated to Sekunder Shah the second, of Dehly. Composed A. D. 1300.

29. *Dustur al Ilaj* دستور العلاج

A diffuse work, in Persian, on the practice of physic, by *Sultan Aly* of Korassān, A. D. 1334., dedicated to Abu Said Behaudur Khan, Emperor of the Moguls.

30. *Maadeni Shefā* معدن شفا

The mine of remedies, or the physician's vade mecum; containing a long list of diseases, with the proper method of cure, alphabetically arranged; it is in Persian; the author *Aly Ben Hussen*, of Bokhārā; A. D. 1368.

31. *Rāhet al Insan* راحت الا نسان

A general treatise on medicine, in Persian; to which are added, prayers, charms, &c. for averting sickness. Author, *Abd al Cuvvy Ben Shehād*, A. D. 1376.

32. *Tohfet Khāny* تحفة خاني

A volume containing the whole science of medicine. The first chapter treats of the knowledge and learning requisite for a physician, and the four other chapters treat of all diseases, general as well as local, to which both sexes are subject; of their cures, and also of medicines, simple and compound, and poisons and stings of noxious animals, with the cures for them; it is in Persian. The author is *Mahmud Ben Mohammed*, physician of Shiraz; written A. D. 1496.

33. *Māāden al Shefāi Sekunder Shāhy*
معدن الشفاي سكندر شاهي

The mine of remedies, a general treatise on the science of physic, in Persian. Author, *Beva Ben Khuas Khan*; A. D. 1512.; and dedicated to Sekunder Shāh the second.

34. *Tohfet al Momĭnin* تحفة المومنين

The whole science of medicine, compiled from various authorities, both Sanscrit and Arabic; it is in Persian. Author, *Mohammed Momin Vuld Mohammed Dilimy*.*

35. *Muntékhab Tohfet al Mōmĭnin*
منتخب تحفة المومنين

An abridgment of the above work, held in much estimation. The author is *Hussen Nasir Allah;* A.D. 1587.

* A copy of this work has been presented to the Royal Asiatic Society by H. T. Colebrooke, Esq.

36. *Tucuim al Adviah* تقويم الادويه

The apothecaries' vade mecum, in Persian, contains an extensive list of medicines, with a description of their qualities and uses, arranged in regular tables. Author unknown.

37. *Corābidīny Masūmy* قرابدين معصومي

The complete dispensatory, in Persian; in which the various qualities of medicines are defined, and proper modes of compounding them fully explained. Author, *Māsum Ben Ibrahim Shīrāzy;* A. D. 1649.

38. *Ikhtiarati Bedîâ va Aghrāz al Tibb*
اختيارات بديع و اغراض الطب

Two volumes, in Persian. The first contains a long list of medicines, simple and compound, and describes their uses. The second comprises the whole science of physic, uniting the theory of the ancients with the practice of the moderns. Authors, *Aly Ben Hussein* of Bagdad, and *Ismāēl Ben Hussēin al Jorāny.*

39. *Táshrih* تشريح

The whole anatomy of the human frame: a work, in Persian, held in great estimation, and of considerable merit. Author, *Munsur Ben Mohammed.* Dedicated to Pir-Mohammed Jehangir, grandson of Timur, in A. D. 1396.

40. *Tucuim al Abdān* تقويم الابدان

An analysis, in Persian, of the human frame; with a discussion of the various complaints each member is separately liable to, and the proper remedies for

every disease explained. The whole is in ruled columns, and arranged in tables. Author, Yaheja *Ben Issa Aly Jézzār.*

41. *Tibbi Akbery. Tejurribāti Akbery. Corabidini Cadery* طب اکبري .تجربات اکبري .قرابدين قادري

Three different works, in Persian. The first is a translation of the Arabic work *Shereh al Asbab*, a celebrated tract on the causes, signs, and remedies of diseases. The second is a general treatise on physic. And the third contains an extensive pharmacopœia of the medicines used in Hindoostan. The author of the above works was *Mohammed Akbar Arzāny*, physician to the Emperor Aurungzebe, to whom they are dedicated.

42. *Riāz Alumgiry* رياض عالمگيري

An esteemed treatise, in Persian, on medicines, food, and clothing; by *Mohammed Riza:* dedicated to the Emperor Aurungzebe.

43. *Sehet al Amrāz va Corabidini Shefāi*
صحت الامراض و قرابدين شفاء

Two volumes, in Persian. The first is said to contain prescriptions for the cure of all disorders; and the latter the complete dispensatory, alphabetically arranged. The authors are *Pir-Mohammed Guzeratty*, A. D. 1726., and *Muzuffer Shéfa.*

44. *Kānūni Sekundery. Muālijeh Sekundery. Corābadini Sekundery*
قانون سکندري .معالجه سکندري .قرابدين سکندري

Three volumes, in Persian. The first contains a treatise on all disorders to which mankind are subject,

with the proper modes of cure. The second is an appendix to the last. The third contains a complete pharmacopœia of the medicines used in the *Carnatic*. The author, *Sekunder Ben Ismâēl* of Constantinople, physician to Nabob Mohammed Aly Khān of *Arcot*, to whom the three volumes are dedicated; the first in 1747, and the last in 1751.

45. *Maadeni Tejerrebāt* معدن تجربات

The mine of experience; an esteemed Persian treatise on medicine, alphabetically arranged, in which the virtues of each drug are particularly explained. Author, *Mohammed Mahdy*, A. D. 1756.

46. *Ferungi Tăbibān. Mizani Tibb. Nuskheh Adviah* فرهنک طبیبان. میزان طب. نسخه ادویه

Three volumes. The first is a Persian medical dictionary, containing a very extensive list of medicines, with a description of their qualities, alphabetically arranged. The second contains a well-written treatise, in Persian, on heat, cold, drought, moisture, and pregnancy. The third is a collection of medical receipts on different subjects. Authors, not known. It is also in Persian.

47. *Tejerribeh Hakim Aly Akbar va Resaleh Tibb*
تجربه حکیم علي اکبر و رساله طب

Two volumes, in Persian. The first is a diffuse treatise on physic, compiled chiefly from actual practice. The other is a treatise on medicine, in which the danger of trusting an ignorant person to compound is strongly dwelt on. Authors, *Aly Akbar*, and *Mohammed Masum*.

48. *Funnī duum der Tibb va Mujmui Resail*

فن دوم در طب و مجموع رسایل

Two volumes. The first is a general treatise, in Persian, on the disorders to which the human species is incident. The other contains three essays, also in Persian, on the following subjects; viz. medicine, astrology, and interpretation of dreams. Authors, *Aly Yār Khān*, and *Abul Fuzl Hussein*.

49. *Jāmi al Fūāid va Fāideh al Akbar*

جامع الفوايد و فايده الاخبار

Two volumes, in Persian. Both works are compendiums of, or selections from, the most esteemed books of physic. Author, *Yusuf Ben Mohammed*.

50. *Kholāseh al Tejerrebāt va Resaleh Chob Chiny*

خلاصة التجربات و رساله چوب چيني

Two volumes, in Persian. The first contains three short treatises on medicine, and the art of dyeing cloths, and making paper. The latter is an essay on the virtues of the chob chiny. Author, *Mohammed Ben Musaud*.

51. *Asrari Atibba va Shefāi al Rejel*

اسرار آطبا وشفاي الرجل

Two volumes, in Persian. The first contains essays on the virtues of medical amulets and charms, for averting or removing disease; the other is a curious treatise on medicine, in verse. Author, *Shehab Addeen*.

52. *Tejerrebeh* تجربه جاماسپ حکیم

A general treatise in Persian, on physic; with observations derived from actual practice. Author's name *Jāmāsp.*

53. *Bihr al Munafi* بحر المنافع

The sea of profit. A diffuse Persian work on midwifery, treatment of children, enchantments, exorcising devils, &c.

54. *Tohfet Mohammedy* تحفة محمدي

A general treatise on Medicine, alphabetically arranged, dedicated to Tippoo Sultan, by *Mohammed Nasir Turk.* The work is in Persian.

55. *Kanūn Der Ilmi Tibb* قانون در علم طب

A translation into Persian of the complete London Dispensatory. Translated by order of Tippoo Sultan.

56. *Terjumeh Ketabi Angriz* ترجمه کتاب انگریز
Terjumeh Ketabi Fring ترجمه کتاب فرنگی

Two volumes, in Persian. The first is a translation in Persian, of an English treatise on electricity and medical experiments; the other is a translation of Dr. Cockburne's treatise on the disease called *intussusceptio.*

57. *Tohfeh Kani Ilāj* تحفه کان علاج

The whole system of farriery, or veterinary art, in Persian, describing all the diseases of horses, and their cure. It is a translation from the Hindi, by *Mohammed Cassim Ben Sherif Khān.*

58. *Resaleh Tibbi Aspān* رساله طب اسپان

A much esteemed work on farriery, in Persian. Translated from Sanscrit by *Zein al Amin*, A. D. 1519, and dedicated to *Shéms Addeen Muzuffir Shāh*.

59. *Canun Fil Tibb* قانون في الطب

In two volumes. This Arabic work is well known in Europe under the name of the Canons of Avicenna. It treats of medicine and diseases in general, simple and compound medicine, their qualities and virtues, also of anatomy; it consists of five books. The author is the celebrated *Abu Aly Hussein Ben Abd Allah Ben Sīnā*, or Avicenna; he was born in the city of Bokhārā, A. D. 980, and died at Hamādān in Persia, A. D. 1036; he was considered as the greatest philosopher and physician of his age. An edition of his work in Arabic was printed at Rome, in 1595, afterwards translated into Latin, and published at Venice, in 1608.

60. *Hulli Mujiz al Canum* حل موجز القانون

Annotations, in Arabic, on the Commentary of *Ala Addeen Aly Al Coreishy Ibn Nafis*, who died A. D. 1288; termed, *Mujiz al Canum Fil Tibb*, being an epitome of the Canons of Avicenna: the work consists of four chapters. The author is *Nafiz Ben Avix*, who resided at the court of Ulugh Beig, about the middle of the 15th century.

61. *Shereh Nafisy* شرح نفيسي

A commentary, in Arabic, on the above work, by the same author.

62. *Almoghny Fi Shereh al Mujiz* المغني في شرح الموجز

A commentary, in Arabic, on the Mujiz of *Ala Addeen Aly Ben Abū al Hazim al Coreishy*, being a compendium of the science of physic, compiled from the works of Hippocrates, Galen, Avicenna, *Honaīn Alrāzy*, and others. It is divided into four chapters. The author is *Sedid Addeen Gazeruny*.

63. *Shereh Asbab va Ilāmut* شرح اسباب وعلامت

A commentary on the Asbab va Ilamut of *Nejb Addeen Mohammed Omar*. It is a celebrated Arabic treatise on the causes, signs, and remedies of diseases, by *Nafis Ben Aviz*, dedicated to Sultan Ulugh Beig Gūrgān.

64. *Tezkireh Tasvīdeh va Hāvy Saghīr*

تزکره تسویدي وحاوي صغیر

Two volumes, in Arabic. These are both general treatises on medicine. Authors' names, *Mohammed Ishāk* and *Hāfiz Mohammed*.

65. *Bihr al Jūāhir va Sélwā al Mustahām*

بحر الجواهر وسلوا المستهام

Two volumes, in Arabic. Two diffuse treatises on medicine in general. Author, *Mohammed Ben Yūsuf* of *Herat*.

66. *Durr al Muntăkhub va Resaleh Tibb*

در المنتخب و رساله طب

Two volumes, in Arabic. Abridgements or compendiums of the foregoing works. Authors unknown.

67. *Masir ul Amrá* ماثر الامراء

Memoirs of illustrious men, composed by *Shahnavaz Khan* شاهنواز خان. Is a work in Persian, in great repute.

68. *Tucvīm al Advīah va Mokhteser Jalīnus.*

تقويم الادويه و مختصر جالينوس

The physician and apothecary's tables, in Arabic; in which the disorders of the human frame are described and proper remedies detailed; to which is added an abridgement of the works of Galen. Author *Abul Fazil Ben Ibrahim* of Tabrīz.

69. *Zubdeh al Hikim, va Khūās al Fūākih*

زبده الحكم و خواص الفواكه

Two volumes, in Arabic. The first contains rules for the preservation of health, by a proper attention to food, dress, cleanliness, &c.; also a treatise on farriery. The second is an essay on fruits, describing their good and bad qualities. Author's name, *Ahmed Ben Mohammed*, and dedicated to Secunder Pāshā.

70. *Sudr Shereh Hedayet al Hikmut*

صدر شرح هدايت الحكمت

A very copious commentary, in Arabic, on the *Hedayet al Hikmut*, comprising the whole course of the sciences read in the schools. A work much esteemed amongst the Mohametans of Hindoostan. Author, *Mohammed Ben Ibrahim Sudr*, Chief Judge of Shiraz.

71. *Ketāb al Shefa* كتاب الشفا

A celebrated system of natural philosophy, in Arabic (twenty-four chapters), theology, metaphysics, logic, rhetoric, arithmetic, mathematics, geometry, astrology, anatomy, poetry, and music, by *Abu Aby Ben Sīnā* (*Avicenna*).

72. *Bihr al Uyūn* بحر العيون

A *Persian* treatise, translated into Arabic, on the formation of the elixir, or philosopher's stone, *geomancy*, *talismans*, &c. Author unknown; the work is dedicated to Amir Syed Casim.

N. B. Russel, in his History of Aleppo, speaks of a valuable Persian manuscript, entitled "The History of Philosophers who lived in the Year 1273 of the Heejera;" he also mentions a "History of Physicians," by all accounts a curious work, written by ابن ابي اصيبا *Ebn Abi Aseiba.**

A FURTHER LIST OF TAMOOL BOOKS, procured for me by a learned Vytian of Southern India.

1. *Kylāsa Chuttamoony Vādanōōl.*

This work explains the art of making nine metals into strong powders. It also treats of arsenic and other powerful medicines.

2. *Boger Elnōōroo* (700 verses).

This teaches the mode of compounding many powerful medicines.

3. *Caresel Punjādy of Aghastier Moonōōroo* (300 verses).

This teaches how to compound strong powders, pills, and other forms of medicine.

* The reader who is anxious about Arabic and Persian literature, is particularly referred to Stewart's admirable Descriptive Catalogue of Tippoo Sultan's library.

4. *Nadysāstrum.*

This work treats of the pulse.

5. *Vydeya Vāgadum.*

This work enumerates the names and nature of many diseases and medicines.

6. *Concananinār Nōōl.*

This teaches how to compound many powerful medicines.

7. *Cumbaly Chuttamoony Neguntoo.*

A dictionary of drugs, and the art of compounding medicines.

8. *Boger yōgamārga Mōōleka.*

Coyasiddy, or the art of strengthening the body: *Yogasiddy*, or the art of making *culpums** and several other medicines.

9. *Aghastier Vydeyah Moonōōroo* (300 verses).

This chiefly instructs us in the art of making various powders.

10. *Boganinar Teroomuntrum.*

This explains the art of preparing several medicines, into which the metals enter.

11. *Pannamaday Sellady.*

This treats of several medicines prescribed for different diseases.

* *Culpums*, are any preparations made to strengthen the body.

12. *Bogur Noguntoo.*

Treats of corrosive and soluble drugs, also of precious stones, and of various animals. It moreover instructs us how to mitigate the violence of powerful drugs, and to make spirits and tinctures.

13. *Yoo Yee Moony Ennōōroo* (800 verses).

This explains the art of preparing several medicines in general.

14. *Dunvuntry Vāgada Vydeya Chintāmoney.*

This teaches us how to judge of the pulse; and also treats of fever and other diseases, and of the best mode of prescribing for them.

15. *Veyādy Goona Vāgadum.*

Treats of the pulse; it also treats of many diseases, and of the nature of animals, and contains some valuable receipts.

16. *Ponnamuttay Palaculembum Attavany.*

This enumerates several medicines, and treats of a few diseases; it is not a book much sought after.

17. *Attavany Vāgadam.*

A work similar to the last.

18. *Agarādy Neguntoo.*

A dictionary of medicine, of good repute.

19. *Aghastier Auyerutty Annōōroo* (1500 verses).

A general work on the Materia Medica.

20. *Aghastier Aranōōroo* (600 verses).
21. *Aghastier Mōōpoo Anbadoo* (50 verses).
22. *Aghastier Goonnoovāgadam Moonōōr* (500 verses).
23. *Aghastier Dundakum Nōōroo* (100 verses).

These are various works of Aghastier on chemistry and physic. They also treat of theology, and of the best means of strengthening the human frame.

24. *Netra Vydeam Moonōōr* (300 verses)

On the nature of the diseases of the eyes, and the best remedies for such complaints.

25. *Kermapācum Moonōōr* (300 verses).

On the diseases occasioned by sin in this world, or occasioned by man's imprudence.

26. *Cestravedy Moonōōr* (300 verses).

The art of surgery is explained in this work.

27. *Detchāvedy Ernōōr* (200 verses).

A work on physic, said to be from divine inspiration.

28. *Shessyam Nōōroo* (100 verses),
29. *Wotteyam Moopatyrendoo* (32 verses).

The following six arts * are explained in these two books, viz., vussyam, stumbanam, moganam, aukershanam, oochātanam, maranam.

* What the arts are, the manuscript does not mention.

30. *Yoógy Moony Chintāmany Elnōōr* (700 verses).

Both chemistry and the science of physic are treated of in this work.

31. *Cōraker Vypoo Nōōroo* (100 verses).

A work similar to the last mentioned.

32. *Concaner Goonavāgadam Annōōroo* (500 verses).

The good and bad effects of medicines are here treated of, and medicine in general.

33. *Chuttamooneyar Gānam Ernōōr* (200 verses).

A curious work, being partly theological and partly medical.

34. *Chuttamooneyar Culpum Nōōroo* (100 verses).

The art of making strengthening medicines from various plants.

35. *Rāmadaver Annōōroo* (500 verses).
36. *Rāmadaver Ernōōroo* (200 verses).

Both of these books treat of corrosive and soluble drugs, also of chemistry and general medicine.

37. *Camālamoony Sootrum Elvatelloo* (77 verses).

This treats of chemistry and physics.

38. *Edacattoo Sidderpaudel Moopattumjoo* (35 verses).

A work similar to the last.

LIST OF MEDICAL* WORKS in the hands of the native practitioners of Ceylon; they are mostly in *Sanscrit*, which in that island is written in the *Cyngalese* character; many of them, however, are translated into Cyngalese. The list was procured for me by the late much-lamented W. Tolfrey, Esq. of Ceylon.

BOOKS CONTAINING THE NAMES OF MEDICINAL HERBS, PLANTS, ETC.

1. *Wasudeva Neghandoo*, 938 verses. 2. *Saswati Nighandoo*, 336 verses. 3. *Namawali Neghandoo*, 290 verses. 4. *Sara Neghandoo*, 112 stanzas.

BOOKS RELATING TO THE NATURE AND SYMPTOMS OF DISEASES, AND TO THE ANATOMY OF THE HUMAN FRAME.

1. *Arĭshtă Sataka*, 100 stanzas. 2. *Madhaiva Nidhana*, 1375 verses. 3. *Sarirashana*. 4. *Sutrasthana*. 5. *Rupălăkshănă*. The number of stanzas in the three last unknown.

BOOKS ON THE QUALITIES AND PROPERTIES OF MEDICINAL PLANTS, DRUGS, ETC.

1. *Guna Patha*, 700 stanzas. 2. *Sĭddhăushădhă Nĭghăndŏŏ*, 331 verses.

* In Ceylon, as Mr. Tolfrey writes me, it is affirmed by the Shastree Brahmins, that the science of medicine was communicated by *Măhă Brăhma* to the *Brăhma Dăkshă Prajapatī*; by *Prajapatī* it was communicated to the *Aswins*, (who, in Mr. Colebrooke's Amera Cosha, are termed the physicians of heaven); the two *Aswins* communicated it to *Satora*, the chief of the gods inhabiting the six lower heavens, by whom it was communicated to the nine sages (under written), mentioned on their going to him with one accord to seek a remedy for the evils brought upon mankind by their iniquities; they communicated it to the King of Casi (*Benares*), whose descendants caused it to be committed to writing:

1. *Dănwăntără*. 2. *Sŭsrută*. 3. *Măttă*. 4. *Pŭnărwăsă*. 5. *Bhărădwajakă*. 6. *Măhă-kăsyăpă*. 7. *Kăsyăpă*. 8. *Lainhădănă*. 9. *Nărădă*.

BOOKS ON THE NATURE AND CURE OF DISEASES.

1. *Manjusa*, 4770 stanzas. 2. *Yōgārnăwă. Warasara-sangraha. Sarasangsepa. Chĭntāmănĭ. Waidyalankara*, 278 stanzas.

BOOKS TAKEN FROM, OR RATHER COMMENTARIES ON, THE MANJUSA.

1. *Yōgăpitākē*. 2. *Bhaishajja Kalpa*. 3. *Lakshana Jăyădēwă*. 4. *Wărăyōgă sara*, 5000 sentences. 5. *Kōlăwĭdhŭ*. 6. *Răt̆nākănă*; the former 400 sentences, the latter 4000 verses.

BOOKS TREATING OF THE MEDICINES TO BE USED IN DIFFERENT DISEASES.

1. *Bhaishajia Mani Malawa*, 1166 stanzas. 2. *Satasloka*, 100 stanzas. 3. *Yōgă Sătăkē*, 100 stanzas.

N.B. For the compilation of the *Manjusa*, which, it would appear, is considered as a treatise of great merit, no less than sixty-three medical sastrums were analysed, and the most valuable parts of them selected. Some of the most remarkable of the works, are the *Bhēlēyă*, the *Abudāne*, the *Sārā Săngrăhă*, and the *Patha Suddhiya*. I cannot conclude what I have to say of the Ceylon medical books, without mentioning Marshall's excellent work on the topography of Ceylon, in which he notices many diseases which are of frequent occurrence in that island, and speaks of a medical sastrum (Veda Patta), part of which was translated into English, by the Rev. M. Lambrick, but who could not ascertain the author's name. I merely put a question here, whether it may not be the *Guna Pāthā*, which, as we have seen above, is one of the two books which treats of me-

dicinal plants; or it may be, perhaps, the *Patha Suddhiya*, one of the sixty-three had recourse to in compiling the *Manjusa*. Nor is less praise due to Mr. *Hoaston*, of Ceylon, for his researches, respecting both the Materia Medica, and the practice of medicine of the Cyngalese, as contained in a paper lately laid before the Literary Society of Ceylon.

CHAPTER III.

NAMES OF DISEASES IN VARIOUS EASTERN LANGUAGES.

ABSCESS. *Vipoordie* வீபூரதி (Tam.) حباب (Arab.) *Burra porāh* بڑا پھوڑا (Duk.) *Vipoordie* (Tel.) *Mayhā vránum* (Sans.)

ANASARCA. *Neer covay* நீர்கோவை (Tam.) يڤكف اير (Malay). *Istiskhā* استسقا (Duk. also Arab.) *Vishá pāndoo* (Tel. and Sans.) also حبن (Arab.)

APOPLEXY. *Assádie Sénnie* உசதிசன்னி (Tam.) *Sannivadam* (Malayalie). *Sawangila* (Malay). *Sáhumnā* سهمنا (Duk.) *Roodrā vāioo* (Tel.) سكتة (Arab.) also همدت (Arab.) *Hooroodrogum* (Sans.)

ASCITES. *Māghōdrum* மாகோதரம் (Tam. and Malayalie). *Jéllunder* جلندهر (Duk.) *Māghodrum* (Tel. and Sans.)

ASTHMA. *Suvāsā cāshum* சுவாசகாசம் (Tam.) *Isak* (Malay). *Dummā* دمه (Duk.) *Suvāsā cāshum* (Tel. and Sans.)

ASTHMA, SPASMODIC. *Mundārā cāshum* மந்தாரகாசம் (Tam.) *Engab* (Malayalie).

Dummā دمہ (Duk.) *Mándārā cāshum* (Tel.) ايس ضبق (Malay). *Mayhā cāshum* (Sans.) دما (Pers.) (Arab.)

BOIL. *Séllándie* சேலாந்தி (Tam.) *Doomool* دمل (Duk. and Arab.) اماس (Pers.) *Koorpoo* (Tel.) *Aroohoo* (Sans.) *Bisol* (Malay). *Untar* (Jav.)

BOIL, RAJAH, or CARBUNCLE. *Pukkā poolavay* பக்கபுலவை (Tam.) *Raj porāh* راج پھوڑہ (Duk.) *Púkká poondoo* (Tel.) *Kátipāmā* (Sans.)

BUBO. *Ariāpoo* அரையாப்பு (Tam.) *Bud* بد (Duk.) پش (Pers.) خبراق (Arab.) *Wodishé gheddā* (Tel.) *Vunkshānāroohoo* (Sans.) *Arak-lesham* (Malayalie).

BURN. *Nérrépoo puttá póon* நெருப்புபட்டபுண் (Tam.) خته (Pers.) حريق (Arab.) *Angār sie Jélnāh* انگار سو جلنا (Duk.) *Inghālum pāddā poondoo* (Tel.) *Aghniduktāvránum* (Sans.)

CANCER. *Poottoo* புற்று (Tam.) *Arbuda* (Malayalie). *Nāsoor* ناسور (Duk.) *Nasur* (Malay), also قوروحايص (Malay). *Nagarapa* (Bali). *Poottā* (Tel.) *Vulmaykum* (Sans.) سرطان (Arab.)

CARBUNCLE, or RAJAH BOIL. See *Boil, Rajah.*

CARPANG.* *Cárápāng* கரப்பான (Tam.) *Kurpān* كرپان (Duk.) *Cārāpānie* (Tel.) *Rooshitum* (Sans.)

* This is an appellation given, in India, to those eruptions on children, which are unaccompanied with fever, and which shew themselves at different periods, during the first three or four years of their life. The Tamool practitioners reckon a great variety of them; but, perhaps, they may, with propriety, be confined to the five following: —

1. CHENG CARPANG. This corresponds with our *red gum* (*strophulus intertinctus*). It usually shews itself at some period during the first two months; seldom later; and can hardly be considered as a disease.

2. COLLIE CARPANG. This commonly shews itself betwixt the age of two and four years; coming out on the face and forehead, under the ears and arms, and on the hands and legs, in red spots, each about the size of a six-pence, consisting of innumerable small papulæ. It terminates in a brownish itchy scab.

3. CARPANG, COMMON. This makes its appearance at any period from the age of three or four months to that of three years. It differs, in many respects, from the two last mentioned, and spreads, in some cases, over every part of the body. It comes out in clusters of from three to five, or more, light coloured papulæ, each of which is about the size of a mustard seed; and terminates in large, loose, yellowish or brown scabs.

4. MUNDAY CARPANG. This corresponds with our *crusta lactea*, or milk cap. It invariably comes out on the forehead and scalp, extending, occasionally, a little over the face; and first shews itself in small, whitish, watery vesicles, of different sizes, which are itchy, and soon become of a dark-brown colour; running, at length, into large, oozy scabs, set close together; and which continue, for many days, to discharge a glutinous ichor, from small apertures. This complaint sometimes appears as early as the middle of the first month, and is often speedily removed; at other times, it is more obstinate, and continues during the whole period of dentition.

5. CADOOANG CARPANG. This is by no means so common as the other carpangs. It generally shews itself about the age of from six months to one year, and is confined solely to the space between the knees and the ancles; in fact, to the legs.

N. B. The use of all repellent applications, of whatever kind, for the removal of such complaints, is dangerous; as those eruptions can be considered in no other light than as the operations of nature to throw off some offending acrimony. Cleanliness, and frequent tepid fomentations, prepared with the *toottie elley* (*sida populifolia*), are all that is required; attending, at the

CATARACT. *Pádálum* படலம் (Tam.) نارلت (Arab.) سردي (Pers.) *Mootiābin* موتيابن (Duk.) *Pāttalum* (Tel.) *Naytrā pāttalum* (Sans.)

CHANCRE. *Kirāndy poon* கிறாந்திபுண (Tam.) *Tākie* ڈاکي (Duk.) *Pokooloo* (Tel.) *Ghréndi* (Sans.) قرح (Arab.) ريش اتشک (Pers.)

CHICKEN-POX. *Cottámillie ummay* கோதத மஸூரிஅம்மை (Tam.) *Kāngé niāhn* كانجنيان (Duk.) *Cottāmillie ummā* (Tel.) *Pittāmásoorikā* (Sans.)

CHOLERA MORBUS. *Ennērum vāndie* எனேரும் நோயாபாந்தி (Tam.) *Dānk-lugnā* ڈانک لگانا (Duk.) *Chirdie-rogum* (Sans.) *Vāntie* (Tel.) *Nirtiripa* (Malayalie).

COCHIN LEG. *Anay kaal** ஆனைகால் (Tam.) *Huttie kā pāwng* هتي کاپاون (Duk.) *Yeanugay kāloo* (Tel.) *Ghéjapádhá vāyoo* (Sans.)

same time, to the state of the bowels; and taking care to touch any parts that may be excoriated and painful, with a little finely prepared castor-oil.

* The Tamool name of this disease (which is sometimes in English called "Barbadoes leg") signifies "elephant leg." It is the *dāil fil* داء الفيل of the modern Arabians, and is a malady altogether distinct from the *lepra Arabum*. Dr. Hillary, in his "Diseases of Barbadoes" (p. 301.), says, he thinks the Greek physicians have given us no description of this morbid enlargement of the limb; but I am inclined to believe, that it was to this they gave the name of *elephas;* thereby distinguishing it from the *elephantiasis*. It appears to be the *elephantia* of *Vogel;* who, however, notices it only as a variety of *elephantiasis*.

CONSUMPTION. *Shÿum* சயம (Tam.) بلا (Malay). سحاف (Arab.) *Booree khānsee* بوري کهانسي (Duk.) *Chÿum* (Tel.) *Raja yétchmā* (Sans.), also *Kshaya* (Sans.), also *Kshaya* (Malayalie).

CONVULSIONS (OF INFANTS). *Mānday sennie* மாந்தசன்னி (Tam.) *Bukmārnā* بکمارنا (Duk.) *Mānday Dzénnie* (Tel.) *Māndum* (Sans.) تسنج (Arab.) ڤتم (Malay).

COSTIVENESS. *Tinjá málum* தீதமலம (Tam.) *Kubz* قبض (Duk.) *Sooskinjināmālum* (Tel.) *Buddā málum* (Sans.) *Prot-kras* (Malay), also ثرت کرس قبض (Malay).

COUGH. *Eeroomul* ஈருமல் (Tam.) *Khānsee* کهانسي (Duk.) *Dughoo* (Tel.) *Cāsum* (Sans.) سلغه (Pers.) قحبت (Arab.) *Batok* باتق (Malay). *Ciuma* (Malayalie).

COUGH, HOOPING. *Kákoovān* ககுவான (Tam.) *Buchioon ké khānsee* بچهونکي کهانسي (Duk.) *Kākoo dughoo* (Tel.) *Cassa churdie* (Sans.) سعال سامل (Arab.)

COW-POX. *Pāssuvoo ummay* பசுவம்மை (Tam.) *Gÿke seetlā* گايکي سيتلا (Duk.) *Aoo-ummā* (Tel.) *Ghomāsoorikéh* (Sans.)

CROUP. *Ellu nāhir* (?) (Tam.) *Sokhā* سوکها (Hindooie). *Ellu nāhir* (Tel.) *Taul-shoontie* (Sans.)

A more severe and dangerous sort of croup is called in Tamool, and also in Tellingoo, *pádu nāhir*.

DANDRIFF. *Shoondoo* சுணடு (Tam.) *Buffa* بغا (Duk.) *Tsoondoo* (Tel.)

DIABETES. *Neer alivoo* நீரழிவு (Tam.) *Silsilibol* سلسل البول (Duk.) *Bāloo mootrum* (Tel.) *Bāhoo mootrum* (Sans.) دیا (Arab.) بیطس (Pers.) سلسال (Malay).

DIARRHŒA. *Crānie kálíchúl* கிரணிகக பிசசல (Tam.) گاچر (Malay). *Khālie julāb* خالي جلاب (Duk.) *Granie* (Tel. and Sans.) شکم جاري (Pers.) اسهال (Arab.)

DYSENTERY. *Seeda káddupoo* சீதகக்கடுப்பு (Tam.) *Ku-ayer-dārā* (Malay). *Ghranni* (Malealie). *Pe-chish* پیچش (Duk.) *Netooru bunka* (Tel.) *Amā chéllénum* (Sans.) سپلدم (Arab.) اسهل خون (Pers.) رحبرت لندر (Malay).

EAR-ACHE. *Kahd'hoo* காதுநோவு (Tam.) *Kān dooknā* کان دکنا (Duk.) *Chévie potoo* (Tel.) *Kurnā soolā* (Sans.)

EPILEPSY. *Kācāivullie* காகாசவலி (Tam.) *Pangsan* (Malay), also غيلا ساوان (Malay), also پيتم باب (Malay). *Mirghie* مرگي (Duk.) *Kākie teepoo* (Tel.) *Kākārogum* (Sans.) *Sanivalli* (Malayalie). صرع (Arab.)

ERYSIPELAS. *Akki* அகி (Tam.) *Shirjah* شرجا (Duk.) *Akki* (Tel.) *Pittā vichārchiká* (Sans.) *Soorkh* سرخ (Pers.) *Kaszalapani* (Malayalie).

FEVER, INTERMITTENT. *Koolloor kāchill* குளிர்காச்சல் (Tam.) تپ نوبت (Pers.) حما (Arab.) *Tundtup* تنڈتپ (Duk.) *Sālie joarum* (Tel.) *Seetā jorum* (Sans.) *Dnnaradenpani* (Malayalie).

FEVER, ARDENT REMITTENT.* *Tāvah jōrum* தாபஜ்ரம் (Tam.) *Deman* دمان (Malay). حماي دايم (Arab.) *Gurm tup* گرم تپ (Duk.) *Tāpāh joarum* (Tel. and Sans.) *Tridoshagioram* (Malayalie).

FEVER, TYPHUS. *Kistnah dōshum* கிஷ்ண தோஷம் (Tam.) حماي محرقت (Arab.) *Tuppie mohirékā* تپ محرقه (Duk.) *Kristnah doshum* (Tel.) *Kristnā jimikā doshum* (Sans.)

FISTULA. *Powtrum* பவுகந்ரம் (Tam.) *Bhugundur* بگندر (Duk.) *Paveetrum* (Tel. and Sans.) ناسور (Pers.) نواصير (Arab.)

GONORRHŒA. *Vullay* வெள்ளை (Tam). ابسردن (Pers.) *Purmah* پرمه (Duk.) وداف (Arab.) *Véttā* (Tel.) *Swéta mayhum* (Sans.) *Crameham* (Malayalie).

* To a remittent fever particularly distinguished by bilious vomitings, is given the name of *ractapittam* in the Malayalie countries.

GRAVEL. *Kull-addypoo* கல்லடைப்பு (Tam.) حصات (Arab.) ریگ شانه (Pers.) *Putrika murz* مرض پتريكا (Duk.) *Rātie mayghum* (Tel.) *Ushmerie* (Sans.) *Calladapa* (Malayalie).

GUINEA WORM. *Nárámboo séllāndie* நரம்பு புழுநோய் (Tam.) *Nāroo* نارو (Duk.) *Nārā poondoo* (Tel.) *Nādie vranum* (Sans.), also *Julsoot* جلست (Sans.)

HEAD-ACHE. *Tullay novoo* தலைநோவு (Tam.) *Sakit-kepla* (Malay). *Sirkā dird* سركا درد (Duk.) *Tala nopie* (Tel.) *Shérorookooh* (Sans.) دردسر (Pers.) صداع (Arab.) also كغال قده (Malay).

HEART-BURN. *Kolay érivoo* தலையெரிவு (Tam.) *Maydékamoo iilnah* جلنا معدي كامون (Duk.) جكر فسادي (Pers.) *Romoo muntā* (Tel.) *Khirdā-háhá* (Sans.)

HERPES, VENEREAL. *Chéng kirāndy* சேங்கிராந்தி (Tam.) *Atāshuk* اتشک (Duk.) *Maygha ghréndie* (Tel. and Sans.)

HICKUP. *Vikkil* விக்கல் (Tam.) *Hitchkie* هچكي (Duk.) *Vékoolloo* (Tel.) *Hikkā* (Sans.)

HYDROCELE. *Neer sooléy* நீர்த்தலை (Tam.) *Pélémipāni ootria* پيلي ميں پاني اوترا (Duk.) *Neer soola* (Tel.) *Jullā soolā* (Sans.) محل (Arab.) *Peler gembung* (Malay).

INDIGESTION, (DYSPEPSIA). *Azirna vāivoo* அசீரணவாயு (Tam.) *Huzm-nāhonā* هضم ناهونا (Duk.) *Oostna vāivoo* (Tel. and Sans.) *Mesrak* (Malay).

ITCH. *Chéringoo* சீரங்கு (Tam.) *Chiori* (Malayalie). *Khārisht* خارشت (Duk.) كري (Arab.), also كر (Arab.) *Ghejee* (Tel.) *Pāmā* (Sans.) گاتل (Malay).

JAUNDICE. *Cāmālay* காமாலை (Tam.) *Peelikā-murz* پيليكا مرض (Duk.) زرد (Arab.) اراقان (Pers.) ساقت قونغ (Malay). *Khāmālay* (Tel.) *Kámilā* (Sans.) *Kamala* (Malayalie).

LEPROSY (OF THE ARABIANS). *Koostum** கூஷ்டம் (Tam.) *Ruggit pittee* رکت پتي (Duk.) *Pedda-rogum* (Tel.) *Vhénghum*, also *Koosthum* (Sans.)

LEPROSY, WHITE. *Vullay koostum*† வெள்ளை உவர்கூஷ்டம் (Tam.) *Suffaid khore* سفيد كوڑ (Duk.) *Tellā koostum* (Tel.) *Sweta koosthum* (Sans.) *Velupa* (Malayalie).

* This is the *elephantiasis* of the Greeks, the *dzudham* جذام or *daubasad* of the Arabian physicians, the *khorah* of the Hindoos of Upper Hindoostan, and the *mal rouge*, or lepre des jointures, of a late celebrated French writer (*Pierre Campet*). Of the ancients, Aretæus of Cappadocia, and Paul of Egina, have written the best on this disease; of the moderns, perhaps, Hillary and Adams.

† This is the white *albaras* of the Arabians, and the *leuce* of the Greeks; and is a disease altogether distinct from that white coloured affection of the skin, which the Tamools call *vullay taymble*, the Mahometans of Lower India *suffaid saym*, the Arabians white *albohak*, and which the ancient Greeks distinguished by the name of *alphos*.

LIENTERY. *Azirna Pēdie* உசிரணபேதி (Tam.) *Girānie* گراني (Duk.) *Azeernā bédie* (Tel.) *Azirnum* (Sans.)

LIVER, INFLAMMATION OF. *Pukka soolay* பகசூலை (Tam.) *Kullijéké āzār* كليجيكاآزار (Duk.) *Pukkā soolā* (Tel.) *Pārsoo soolā* (Sans.) جگر فسادي (Arab.)

LOCHIA, IMMODERATE FLOW OF. *Pérumbādoo* பேரும்பாடு (Tam.) *Ziādā néfas* زياده نفاس (Duk.) *Bohoo ruktum* (Tel.) *Prādárum* (Sans.)

LOCHIA, SUPPRESSION OF. *Woodérie kuttoo* வதிரகடு (Tam.) *Husbi nefas* حبس نفاس (Duk.) *Soodagha kuttoo* (Tel.) *Soodikā ructā buddum* (Sans.)

LOCK-JAW. *Sennie* சன்னி (Tam.) *Daat kilie* دات كيلي (Duk.) *Jénnie* (Tel.) *Sunnie* (Sans.)

MADNESS. *Verie pyteeum* வெரிபிடிதகி யம் (Tam.) *Deewana* ديوانه (Duk.) مجنوني (Arab.), also جنت (Arab.) جنون (Pers.) *Vérie pyteeum* (Tel.) *Oonmādum* (Sans.) بنجس (Malay).

MEASLES. *Chin ummay* சின்னமாதம (Tam.) *Gobrie* كوبري (Duk.) كاتو مبوان (Malay), also *Chumpak* جمپاك (Malay.) سرخبچه (Arab.), also حصبت (Arab.) *Chin umma* (Tel.) *Khrusvā másoorikāh* (Sans.)

MELANCHOLY, RELIGIOUS. *Niyanā pyteeum* நானபயீதபிடம (Tam.) *Zimālihoolia* ذيمالیخولیا, also *Dewana pun* (Duk.) سودا (Arab.), also اغم (Arab.) *'Niānāh pyteeum* (Tel.) *Chitā veebrámā* (Sans.) دوکه (Malay).

MENSES, IMMODERATE FLOW OF. *Rutta vārie* ரததபோக (Tam.) حیض منتهز (Arab.) *Ziada tums* طمث زیاده (Duk.) *Kusoomā* (Tel.) *Bāhoo rujhā* (Sans.)

MENSES, SUPPRESSION OF. *Soodoogá moottoo* தூதகடு (Tam.) *Hubsi tums* حبس طمث (Duk.) *Soodága soolā* (Sans.) *Moottoo koottoo* (Tel.) حیض باز داشته (Pers.)

MUMPS. *Koolúmay kuttie* குழமைகட (Tam.) *Gulléana* كلي آنا (Duk.) *Tsallava ghédda* (Tel.) *Seedā pittum* (Sans.)

NIGHT BLINDNESS. *Mālay kāmālay* மா உலகமாஉல (Tam.) *Rut-andla* رتاندلا (Duk.) *Raytsing kuttie* (Tel.) *Neeshāndum* (Sans.)

NODE. *Kuttoo sooley* கடுசூல (Tam.) *Huddisujnā* هڈيسوجنا (Duk.) *Kuttoo soolā* (Tel.) احمق (Arab.)

OPHTHALMIA. *Kūn novoo* கணநவ (Tam.) *Ankiānah* انكي آنا (Duk.) *Kun nopie* (Tel.) *Netrā soola* (Sans.) ماته نيلس (Malay).

PAINS, VENEREAL. *Mayghī sholoy* மேக சூலை (Tam.) *Atashuk ke wā-i* اتشک کيواي (Duk.) *Maygha soolā* (Sans.), also *Udhung* (Sans.) *Mayghā nopie* (Tel.)

PALSY. *Pátché vāivoo* பக்கவாயு (Tam.) *Jōhla* جهولہ (Duk.) *Patchā vātum* (Tel.) زمني (Arab.) نيمہ (Pers.) لومپوہ (Malay). *Pukshā gātum* (Sans.)

PILES. *Moolum* மூலம் (Tam.) *Bāwāseer* بواسير (Duk.) *Bawasir* (Malay). *Moolum* (Tel.) بواسير (Arab.) *Arisháhá* (Sans.) *Aadram* (Malayalie).

RHEUMATISM. *Seedávādā kuddāpoo* சீதவாத குடாபு (Tam.) *Guttiābāi* کهٹیاباي (Duk.) *Seetā vātā nopie* (Tel.) *Vātā rogum* (Sans.) *Peniakit-dari-angin* (Malay).

RING WORM. *Pádoothāmáray* படுதாமரை (Tam.) *Dād* داد (Duk.) حصف (Arab.) يريون (Pers.) *Kurap* كوراث (Malay). *Padootāmārā* (Tel.) *Mundālákum* (Sans.)

RUPTURE. *Válie póodíku* வலிபோடுகை (Tam.) *Utrikā dérpélā* اترّي کا ديرّپيلا (Duk.) *Booddā* (Tel.) *Auntrā vridhi* (Sans.) بادخايہ (Pers.)

SCALD. *Sooddátánnie poonnoo* சுடுதண்ணீர்புண (Tam.) *Gurmpānisujilnā* کرم پاني سوجلنا (Duk.) *Véneelā pādda poondu* (Tel.) *Oostnodukhā dugdhā vránum* (Sans.)

SCALD HEAD. *Pódóghoo* போகுகு (Tam.) *Goonj* گنج (Duk.) *Podooghoo Kārāpānie* (Tel.) *Badkhora* بادخورا (Pers.)

SCORPION, STING OF. *Taylkottinēdoo* தேள்கொட்டினது (Tam.) *Beechukātnā* بچھوکاٹنا (Duk.) *Tayloo karichinadie* (Tel.) *Vrischikā dushtum* (Sans.)

SCROPHULA. *Kundámālie* கண்டமாலை (Tam.) *Gundmāl* گنڈہ ال (Duk.) *Kuntāmālā* (Tel.) دامغول (Arab.) خنامرنجي (Persian). *Ghendāmālā* (Sans.)

SMALL POX. *Perie ummay* பெரியம்மை (Tam.) ابله (Arab.), also اوله (Arab.) *Burriseetle* بڑّيسيتلا (Duk.) *Pedummā* (Tel.) *Kruwan* (Bali). *Másoorikéh* (Sans.), also (Malayalie). *Kelumbuan-Chachar* (Malay).

SNAKE, BITE OF. *Pāmboo kúddie* பாம்பு கடி (Tam.) *Sāwpkātna* ساپکاٹنا (Duk.) *Pāmookatoo* (Tel.) *Surpā dushtum* (Sans.)

SORE-THROAT. *Tónday nōvoo* தொண்டை நோவு (Tam.) *Gullikā dird* گلي کا درد (Duk.) *Gontoo nopie* (Tel.) *Kunturrook* (Sans.) *Sakit-leher* (Malay).

TESTICLE, SWELLED. *Véréi veekum* வேரை வீக்கம் (Tam.) *Dérpéla* ديڑپيلا (Duk.) *Unda nopie* (Tel.) *Undā shobā* (Sans.)

THRUSH. *Achirum* அசுரம், also *Parititooroo* பரிதிதூரு (Tam.) *Achir* اچهر (Duk.) *Achérum* (Tel.) *Mookāpākum* (Sans.) *Ninanwan* ننانوان (Hind.)

TOOTH-ACHE. *Pulloo novoo* பல்லு நோவு (Tam.) *Dāt ka dird* دات کا درد (Duk.) *Pāntie nopie* (Tel.) ضراس (Arab.) دردسن (Pers.) *Dunthārook* (Sans.) *Sakit-gigi* (Malay).

TYMPANITES. *Vāitie pooroomál* வயிறுமால பெருகுதல், also *Coonma vāivoo* (Tam.) *Payt bŷsusoojah* پیٹ بایسوسوجہ (Duk.) استسقاء طبلي (Arab.) *Kadoopu-oobasum* (Tel.) *Anāhum* (Sans.)

VENEREAL DISEASE. *Mayghaveeadie* மகாவியாதி (Tam.) *Khrāb murz* خراب مرض (Duk.) *Mayhā veeadie* (Tel. and Sans.) اتشک (Arab.) *Deman-ganti-hari* (Malay).

ULCER, SIMPLE. *Poonnoo* புண் (Tam.) *Porah* پھوڑا (Duk. and Malay). قرح (Arab.) ورم (Pers.) *Poondoo* (Tel.) *Vránum* (Sans.)

ULCER, FOUL. *Alie poonnoo* அளிபுண் (Tam.) وري (Arab.) *Khrāb pōrah* خراب پھوڑا (Duk.) *Ghoonta poondoo* (Tel.) *Nimmā vránum* (Sans.) *Ceravarpa* (Malayalie).

URINE, DIFFICULTY IN VOIDING. *Mootray kritchie* மூத்திரகிரிச்சை (Tam.) *Peeshābyék yék boond tapukna* پیشاب یک یک بوند ٹپکنا (Duk.) *Mootrā kritchum* (Tel. and Sans.)

URINE, TOTAL STOPPAGE OF. *Neer kūttoo* நீர்கடு (Tam.) *Peeshabbundhona* پیشاب بندھونا (Duk.) سدبول (Arab.) *Neer kuttoo* (Tel.) *Mootrabudhum* (Sans.)

URINE, INCONTINENCE OF. *Kullèripoo mayghum* கள்ளேரிபடுமகம (Tam.) *Tellooyekkay meeroodikkey mayghum* (Tel.) *Ashoomootray mayghum* (Sans.) *Silsilay bole* سلسل بعل (Duk.) *Nirvaszicia* (Malayalum).

WHITES. *Yéllumb-oorkie* வெள்ளமூரகி also *Vullay mayghum* (Tam.) *Puggir* پگر (Duk.) *Ustie roghum* (Tel.) *Ustie strávum* (Sans.)

WORMS, ASCARIDES. *Keerie poochie* கிரிபூச்சி (Tam.) *Kirrum* کرم (Duk.) *Cheerie pooroogoolu* (Tel.) *Khrusvā kreemie* (Sans.)

WORMS, TERES. *Nāh poochie* நாகபூச்சி (Tam.) *Caching* (Malay). *Géndéway* گيندوي (Duk.) *Yealika pamoo* (Tel.) *Surpā kreemie* (Sans.)

WORM, TAPE. *Nélá poochie* நீளபூச்சி (Tam.) *Lumbé-géndéway* لمبي گيندوي (Duk.) *Needivie poorooghu* (Tel.) *Deerkhā kreemie* (Sans.)

ADDENDA.

Since writing the foregoing Parts of the Materia Indica, I have seen the first Fasciculus of Dr. C. F. P. de Martius's work, entitled "Specimen Materiæ Medicæ Rasiliensis;" in it he notices several plants as possessing emetic properties which have not hitherto attracted much attention; some of the most remarkable are: —

1. *Cephælis Ipecacuanha.*

Ipecacuanha, Piso. Edit. 1648. p. 101. *Callicocca Ipecacuanha fusca do Brasil.*

2. *Poaya, s. Ipecacuanha branca, s. do campo.*

3. *Richardsonia Scabra.*

Richardia Scabra. Lin. Spec. ed. Willd. ii. p. 222.

4. *Richardsonia Emetica.*

5. *Polygala Poaya.*

The dose of the root of this, he says, is from two thirds of a drachm to a whole one.

6. *Ionidium Ipecacuanha.*

This plant is the *Ipecacuanha branca* of Piso, and is used by the Brazilians as a substitute for the common ipecacuanha. Piso praises its virtues against poisons.

7. *Ionidium Urticæfolium.*

8. *Chiococca Anguifuga.*

9. *Chiococca Densifolia.*

This and the foregoing species of Chiococca appear to have virtues in cases of snake-bites, and are supposed to do good chiefly by exciting vomiting.

10. *Manettia Cordifolia.*

This plant is considered by the Brazilians as possessing great efficacy in cases of dropsy and dysentery. The dose of the powder of the bark of the root is from half a drachm to a drachm and a half.

END OF THE SECOND VOLUME, AND OF THE MEDICAL PART OF THE WORK.

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